

REGULATION 2

PROHIBITIONS

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RULE 201 COVERAGE

Adopted 11-12-74
(Amended 06-19-79, 05-27-86, 10-19-93)

Prohibitions as set forth in this Regulation, shall apply in the Placer County Air Pollution Control District.

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RULE 202 VISIBLE EMISSIONS

Adopted 11-12-74
(Amended 05-24-77, 06-19-79, 05-20-85)

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- A. As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
- B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection (A) above.

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RULE 203 EXCEPTIONS TO RULE 202

Adopted 05-24-77
(Amended 04-21-81, 10-19-93)

- A. For the Sacramento Valley Air Basin and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District:
1. Fires set by a public officer pursuant to RULE 320.
 2. Agricultural burning for which a permit has been granted pursuant to RULE 315.
 3. Fires set or permitted by any public officer in the performance of his official duty for the improvement of watershed range or pasture.
 4. Open outdoor fires used for recreational purposes or for cooking of food for human consumption.
 5. Use of any aircraft to distribute aids over lands devoted to the growing of crops, or the raising of fowl or animals.
 6. The use of orchard or citrus grove heaters which are in compliance with the requirements of RULE 208.
 7. Agricultural operations necessary for the growing of crops, or raising of fowl or animals.
 8. The use of other equipment in agricultural operations necessary for the growing of crops, or the raising of fowl or animals.
 9. Fires set pursuant to a permit issued by the Air Pollution Control Officer or a designated agency.
 10. The use of visible emission generating equipment in training sessions conducted by government agencies necessary for certifying persons to evaluate visible emissions for compliance with Section 41701 or applicable District Rules and Regulations.
 11. Smoke emissions from tepee burners operating in compliance with Section 4438 of the Public Resources Code during the disposal of forestry and agricultural residues or forestry and agricultural residues with supplementary fossil fuels when such emissions result from the startup or shutdown of the combustion process or from the malfunction of emission control equipment. This subsection shall not apply to emissions which exceed a period or periods of time aggregating more than 30 minutes in any 24-hour period. This subsection shall not apply to emissions which result from the failure to operate and maintain in good working order any emission control equipment.
 12. Smoke emissions from burners fired with forestry and agricultural residues or forestry and agricultural residues with supplementary fossil fuels when such emissions result from the startup or shutdown of the combustion process or from the malfunction of emission control equipment. This subsection shall not apply to emissions which exceed a period or periods of time aggregating more than 30 minutes in any 24-hour period. This subsection shall not apply to emissions which result from the failure to

operate and maintain in good working order any emission control equipment.

- B. For the Lake Tahoe Air Basin portion of the Placer County Air Pollution Control District:
1. Smoke from fires set or permitted by any public fire officer, if such fire is set by or permission given in the performance of the official duty of such officer, and such fire in the opinion of such officer is necessary:
 - a. For the purpose of the prevention of a fire (or health hazard as determined by the Health Officer), which cannot be abated by any other means, or
 - b. The instruction of public employees and/or volunteer firemen in the methods of fighting fires.
 2. Smoke from fires set pursuant to permit on property used for industrial purposes for the purpose of instruction of employees in methods of fighting fires.
 3. Open outdoor fires used for recreational purposes or for cooking of food for human consumption.
 4. The use of an experimental device, system or method to study or research open burning authorized by Section 41707 and 41805 (B) of the Health and Safety Code and these Rules and Regulations.
 5. Use of aircraft to distribute seed, fertilizer, insecticides, or other agriculture aids over lands devoted to the growing of crops, or the raising of fowl or animals.
 6. The governing board of the district may by rule provide for the issuance by the Air Pollution Control Officer of permits for open burning. The provisions of RULE 202 do not apply to smoke from fires set pursuant to such permit.

RULE 204 WET PLUMES

Adopted 11-12-74
(Amended 05-24-77)

Where the presence of uncombined water is the only reason for the failure of an emission to meet the limitation of RULE 202 that rule shall not apply. The burden of proof which establishes the application of this Rule shall be upon the person seeking to come within its provisions.

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RULE 205 NUISANCE

Adopted 12-08-70
(Amended 05-24-77)

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

Exception: The provisions of RULE 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.

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RULE 206 INCINERATOR BURNING

Adopted 11-12-74
(Amended 05-24-77, 12-19-78, 05-20-85, 02-04-92, 11-03-94)

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100 GENERAL

- 101 **APPLICABILITY:** This rule applies to any incinerator which burns combustible or flammable waste or refuse-derived fuel.
- 102 **EXEMPTION, BIOMASS BOILERS:** This rule shall not apply to boilers which have a primary energy source of biomass consisting of a minimum of 75 percent of the total annual heat input and which are subject to the requirements of Rule 232, BIOMASS SUSPENSION BOILERS, or Rule 233, BIOMASS BOILERS.
- 103 **EXEMPTION, CREMATORY INCINERATORS:** This rule shall not apply to existing incinerators in operation on February 4, 1992 and which are exclusively crematoria of human or animal remains and are not modified or replaced.
- 104 **EXEMPTION, EXISTING INCINERATORS:** The operating requirements of Section 302 shall not apply to an existing incinerator for which an Authority to Construct was issued by the Air Pollution Control Officer before February 4, 1992.
- 105 **EXEMPTION, MEDICAL WASTE INCINERATORS:** This rule shall not apply to those incinerators which are subject to the requirements of Rule 906, AIRBORNE TOXIC CONTROL MEASURE - MEDICAL WASTE INCINERATORS.
- 106 **EXEMPTION, RESIDENTIAL WASTE INCINERATORS:** This rule shall not apply to the burning of wood waste from trees, vines, or bushes burned on the property where grown; or rubbish originating from a single or two family dwelling on its premises, provided that the requirements of Regulation 3 are met; nor to an incinerator used exclusively in connection with a structure designed for and used exclusively as a dwelling for not more than four families.
- 107 **EXEMPTION, TREATMENT UNITS:** This rule shall not apply to treatment units associated with aeration of contaminated soil, air stripping, and vapor extraction operations.

200 DEFINITIONS

- 201 **ARB:** State of California Air Resources Board.
- 202 **BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 203 **CONTROL EQUIPMENT:** Any device which reduces emissions.
- 204 **DIOXINS:** Dibenzo-p-dioxins and dibenzofurans chlorinated in the 2, 3, 7, and 8 positions and containing 4, 5, 6, or 7 chlorine atoms and is expressed as 2, 3, 7, 8 tetrachlorinated dibenzo-para-dioxin equivalents using current California Environmental Protection Agency toxic equivalency factors.
- 205 **EXCESS AIR:** The air supplied in excess of that necessary to completely burn compounds.

- 206 **INCINERATOR:** Any furnace or other closed fire chamber used to dispose of combustible or flammable materials by burning and from which the products of combustion are directed through a flue, chimney, or smoke stack. For the purposes of this rule incinerators shall include boilers heated by the burning of waste, unless otherwise exempted in Section 100.
- 207 **MULTIPLE-CHAMBER INCINERATOR:** An incinerator consisting of three or more refractory lined combustion furnaces in series, physically separated by refractory walls, inter-connected by gas passage ports or ducts employing adequate design parameters necessary for maximum combustion of the materials to be burned.
- 208 **MULTIPLE-CHAMBER STARVED-AIR INCINERATOR (or Controlled Air Incinerator):** An incinerator which is designed to burn waste in two independent chambers:
- 208.1 Primary Chamber: where the majority of waste volume reduction occurs operated at sub-stoichiometric conditions.
- 208.2 Secondary Chamber: operates at excess air conditions; where destruction of gas-phase combustion products occurs. Passage ports, ducts, flues, chimneys, or stacks with burners shall not be considered Controlled Air secondary chambers unless the combustion zone exhibits design measures for the retention of the gas stream in the chamber, turbulence or mixing, and the availability of excess air, as determined by engineering analysis.
- 209 **REFUSE-DERIVED FUEL:** Treated or processed solid waste that is used as a fuel.
- 210 **UNCONTROLLED EMISSIONS -** The emissions measured from the incinerator at a location downstream of the last combustion chamber, but prior to any air pollution control equipment.
- 211 **STOICHIOMETRIC AIR:** An amount of air (theoretical combustion air) theoretically required for the complete combustion of compounds with total depletion of oxygen.
- 212 **SUB-STOICHIOMETRIC AIR:** An amount of air (theoretical combustion air) less than that required for the complete combustion of compounds.
- 213 **WASTE:** All discarded putrescible and nonputrescible solid, semisolid, and liquid materials, including garbage, trash, refuse, paper, rubbish, food, ashes, plastics, industrial wastes, demolition and construction wastes, equipment, instruments, utensils, appliances, manure, and human or animal solid and semi-solid wastes or remains.
- 214 **WASTE CHARGING RATE:** The amount of waste charged or fed into the incinerator per unit of time, usually expressed in terms of pounds per hour or kilograms per hour.
- 300 **STANDARDS**
- 301 **EMISSION LIMITATIONS:** No person shall operate an incinerator subject to this rule unless:

- 301.1 Oxides of Nitrogen emissions, expressed as Nitrogen Dioxide (NO₂), do not exceed 50 parts per million by volume, dry basis, (ppmdv) corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.
- 301.2 Sulfur Dioxide emissions, expressed as Sulfur Dioxide (SO₂), do not exceed 30 ppmdv, corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.
- 301.3 Carbon Monoxide (CO) emissions do not exceed 100 ppmdv, corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.
- 301.4 Particulate Matter emissions do not exceed 0.015 grains per dry cubic foot of gas at standard conditions, corrected to 12% carbon dioxide (CO₂). The concentration limit shall apply to particulate matter measured using ARB Test Method 5.
- 301.5 Total Hydrocarbon emissions (THC) emissions expressed as equivalent methane do not exceed 10 ppmdv, corrected to 12% carbon dioxide (CO₂), for any 1 average hour emission rate.
- 301.6 Total Hydrochloric Acid (HCl) emissions do not exceed 30 ppmdv, corrected to 12% carbon dioxide (CO₂), for any 1 hour average emission rate.
- 301.7 Dioxins emissions have been reduced to 10 nanograms or less per kilogram of waste burned.

Demonstration of compliance with Subsections 301.6 and 301.7 shall not apply to incinerators which are exclusively crematoria of human or animal remains.

302 OPERATING REQUIREMENTS: No person shall operate an incinerator subject to this rule and not exempt under Section 102, unless control equipment is installed and used in a manner which has been demonstrated and approved by the Air Pollution Control Officer to meet the following requirements:

- 302.1 The flue gas temperature at the outlet of the control equipment shall not exceed 300 degrees Fahrenheit, unless it has been demonstrated to, and approved in writing by, both the ARB and the Air Pollution Control Officer that lower emissions are achieved at a higher outlet temperature;
- 302.2 Only multiple-chamber starved-air incinerators may be used. The primary combustion chamber shall be maintained at no less than 1400 degrees Fahrenheit, and the secondary chamber shall be maintained at no less than 1800 degrees (\pm 200 degrees) Fahrenheit; and
- 302.3 The furnace design shall provide for a residence time in the secondary chamber for combustion gas of at least one second. Residence time shall be calculated using the following equation:

$$\text{Residence Time} = \frac{V}{Q_c}$$

Where: V = means the volume, as expressed in cubic feet, from the point in the incinerator where the maximum temperature has been reached until the point where the temperature has dropped

to 1600°F.

Q_C = means the combustion gas flow through V, as expressed in actual cubic feet per second, which is measured according to ARB Test Method 2, after adjusting the measured flow rate to the maximum combustion chamber temperature (T_C) by using T_C instead of T_{STD} in the ARB Test Method 2 calculation for Q_C .

The volumetric flow rate measured at the sampling points must be adjusted to chamber pressures.

Alternative methods may be used if conditions for determining the combustion gas flow rate by Method 2 are unacceptable. The determination shall be equivalent to, and within the guidelines of, ARB Test Method 2 and approved by the Air Pollution Control Officer and the U.S. Environmental Protection Agency (EPA).

T_C = means the maximum temperature, in degrees Fahrenheit, that has been reached in the incinerator.

302.4 No person shall operate a waste or refuse-derived fuel incinerator unless the following equipment is installed and maintained in an operable condition:

- a. A continuous data recording system as specified in Section 501.
- b. Primary and secondary combustion chamber temperature indication.
- c. Equipment for determining and recording the weight of waste charged to the incinerator.
- d. An automated ram waste feeder with airlock, for batch fed incinerators, such that no ingress of external air occurs during the process of feeding waste to the primary combustion chamber.

303 AUXILIARY FUEL: Auxiliary fuels shall be natural gas, liquefied petroleum gas, or equivalent gaseous fuel.

304 ASH HANDLING: No person shall operate a waste incinerator unless the bottom ash, fly ash and scrubber residuals are handled and stored in a manner that prevents entrainment into ambient air.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

401.1 By November 3, 1995, any person subject to the emission limitations in Section 301 shall submit an application for Authority to Construct for any modifications required to achieve compliance with this rule.

401.2 By November 3, 1996, any person subject to the emission limitations in Section 301 shall demonstrate final compliance with all applicable standards and requirements of this rule.

402 UPSET NOTIFICATION: Any violation, malfunction, or upset condition on the incinerator, the air pollution control equipment, or the continuous data recording system shall be reported to the District within 1 hour of occurrence or by 9:00 AM the next business day if the malfunction occurs outside normal business hours and the District does not maintain a radio room or an answering machine.

403 OPERATOR CERTIFICATION: No person shall operate a waste incinerator unless each individual who operates or maintains the incinerator obtains either a certificate of training in waste incineration issued by the American Society of Mechanical Engineers within nine months of the commencement of operation, or equivalent training as determined by the Air Pollution Control Officer. Copies of the training certificates for the operators and maintenance engineers shall be submitted to the District and the original certificates shall be available for inspection at the facility with the permit to operate.

404 OPERATION AND MAINTENANCE PLAN: Any person using an emission control device as a means of complying with the emission limitations of Section 301 shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

404.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
- b. Records that must be kept to document the operation and maintenance procedures.

404.2 The records must comply with Sections 501, 505, and 506.

404.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

404.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 MONITORING: Any person operating an incinerator subject to this rule shall maintain a data recording system which provides for each day of operation continuous recording of:

501.1 Primary and secondary combustion chamber temperatures;

501.2 Carbon monoxide emissions;

501.3 Hourly waste charging rates;

- 501.4 The opacity of stack emissions or other indicator of particulate matter which is approved by the Air Pollution Control Officer; and
- 501.5 Key operating parameters of the air pollution control equipment, as specified by the Air Pollution Control Officer.

502 DETERMINATION OF COMPLIANCE: For purposes of demonstrating initial or continued compliance with the emission limits of Section 301, any person operating an incinerator subject to this rule shall conduct the following source tests in the manner specified in Section 503:

- 502.1 Source test for Oxides of Nitrogen using ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E.
- 502.2 Source test for Sulfur Dioxide using ARB Test Method 6, Title 17, CCR, Section 94106, Determination of Sulfur Dioxide Emissions from Stationary Sources, or ARB Test Method 100.
- 502.3 Source test for Carbon Monoxide using ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100.
- 502.4 One source test for Particulate Matter using ARB Test Method 5, Title 17, CCR, Section 94105, Determination of Particulate Matter Emissions from Stationary Sources, including non-volatile impinger catch.
- 502.5 One source test for Total Hydrocarbons using ARB Test Method 100, measured as equivalent methane.
- 502.6 One source test for Hydrochloric Acid using ARB Test Method 421, Title 17, CCR, Section 94131, Determination of Hydrochloric Acid Emissions from Stationary Sources, for waste or refuse-derived fuel incinerators, excluding crematoria.
- 502.7 One source test for Dioxins using ARB Test Method 428, Title 17, CCR, Section 94139, Determination of Polychlorinated Dibenzo-p-Dioxin (PCDD), Polychlorinated Dibenzofuran (PCDF), and Polychlorinated Biphenyl (PCB) Emissions from Stationary Sources, for waste or refuse-derived fuel incinerators, excluding crematoria. The high resolution mass spectrometry option of ARB Test Method 428 shall be used.
- 502.8 Source test for Carbon Dioxide using ARB Test Method 100, or EPA Test Method 3A.

Further source testing may be required by the Air Pollution Control Officer in accordance with Rule 501, Section 304, Provision of Sampling and Testing Facilities. The installed continuous emissions monitoring systems specified by Section 501 shall demonstrate compliance or non-compliance with the emission limitations of Section 301.

503 TEST REQUIREMENTS

- 503.1 **Test Plan:** At least sixty (60) days prior to any testing, a written test plan (two copies) detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule, including any use of alternate test methods proposed in accordance with Section 504. The plan shall provide the proposed procedures for the characterization of the representative waste to be burned during testing.
- 503.2 **Test Performance and Reporting:** For purposes of determining compliance with Section 301, the source testing shall be conducted at the stack. Information regarding the composition (moisture content, heating value in British Thermal Units, and amount of the total waste, by weight percent, that is paper or cardboard, plastics, glass, wet garbage, or that is hazardous or radioactive) and feed rate of the waste and auxiliary fuel charged during the source test shall be provided with the test results. The Air Pollution Control Officer can require additional necessary information regarding the composition of the waste. Source testing shall be conducted at the maximum waste firing capacity (" 10 percent) allowed by the air district permit. A copy of all source test results conducted for purposes of demonstrating compliance with this rule shall be provided to the ARB at the same time that it is provided to the District.

504 ALTERNATE TEST METHODS: Alternate test methods, may be used to demonstrate compliance with Section 301 in lieu of the specified test methods of Section 503 only if approved in writing by, both the Air Pollution Control Officer and the U.S. EPA. Such test methods may include EPA test methods specified in 40 CFR 60 Appendix A, required for sources subject to New Source Performance Standards.

505 RECORD-KEEPING: Maintenance records shall be kept for the incinerator, control equipment, and monitoring equipment; and calibration records for the monitoring equipment.

506 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

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RULE 207 PARTICULATE MATTER

Adopted 11-12-74
(Amended 05-24-77, 06-19-79, 05-20-85, 10-19-93)

- A. For the Sacramento Valley Air Basin and the Mountain Counties Air Basin portions of the Placer County Air Pollution Control District a person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of: 0.1 grains per cubic foot of gas at District standard conditions.
- B. For the Lake Tahoe Air Basin portion of the Placer County Air Pollution Control District a person shall not release or discharge into the atmosphere from any source or single processing unit whatsoever, particulate matter emissions in excess of: 0.2 grains per cubic foot of gas at District standard conditions.

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RULE 208 ORCHARD OR CITRUS HEATERS

Adopted 11-12-74
(Amended 05-24-77)

- A. No person shall use any orchard or citrus heater unless it has been approved by the ARB, or does not produce more than 1 gram per minute of unconsumed solid carbonaceous material.
- B. All orchard heaters shall be maintained in reasonably clean condition, good repair and working order. Whenever orchard heaters are burning they must be adequately attended and supervised to maintain the condition, adjustment and proper operation of the orchard heaters.
- C. It shall be unlawful for any person, for the purpose of frost protection to burn any rubber, rubber tires or other substance containing rubber, or to burn oil or other combustible substances in drums, pails or other containers except orchard heaters.

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RULE 209 FOSSIL FUEL-STEAM FACILITY

Adopted 11-12-74
(Amended 05-24-77)

A person shall not build, erect, install or expand any fossil fuel fired steam generating facility unless the discharge into the atmosphere of contaminants will not and does not exceed any one or more of the following rates:

- A. 200 pounds per hour of sulfur compounds, calculated as sulfur dioxide (SO₂).
- B. 140 pounds per hour of nitrogen oxides, calculated as nitrogen dioxide (NO₂).
- C. 10 pounds per hour of combustion contaminants (as defined in RULE 102) derived from the fuel.

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RULE 210 SPECIFIC CONTAMINANTS

Adopted 11-12-74
(Amended 05-24-77, 12-19-78, 6-19-79, 05-20-85, 10-19-93)

- A. A person shall not discharge into the atmosphere from any source of emissions whatsoever, any one or more of the following contaminants, in any state or combination, therefore exceeding in concentration at point of discharge:
1. Sulfur compounds, calculated as sulfur dioxide (SO₂):
 - a. 0.2 percent by volume for the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District.
 - b. 500 parts per million by volume for the Lake Tahoe Air Basin portion of the Placer County Air Pollution Control District.
 2. Combustion Contaminants:
 - a. Wood fired boilers and incinerators in the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District: 0.2 grains per cubic foot of gas calculated to 12 percent carbon dioxide (CO₂) at standard conditions.
 - b. All other combustion sources in the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District and all combustion sources in the Lake Tahoe Air Basin portion of the District: 0.1 grains per cubic foot of gas calculated at 12 percent carbon dioxide (CO₂) at standard conditions.
- B. Particulate matter emitted from a source in which exhaust gases from a combustion unit or process are used to dry, calcine, pyrolyze, sinter, or otherwise condition (exclusive of combusting) any process material shall be excluded from calculation as combustion contaminants.

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RULE 211 PROCESS WEIGHT

Adopted 05-24-77
(Amended 06-19-79, 04-21-81, 05-20-85, 10-19-93)

A person shall not discharge into the atmosphere in any one hour from any source whatsoever solid particulate matter in excess of the amount shown in the following table:

ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE

Process Weight Rate lbs/hr	Emission Rate lbs/hr
50	0.4
100	0.6
500	1.5
1,000	2.3
5,000	6.3
10,000	9.7
20,000	15.0
60,000	29.6
80,000	31.2
120,000	33.3
160,000	34.9
200,000	36.2
400,000	40.4
1,000,000	46.8

Interpolation of the data from the process weight rate up to 60,000 lb/hr shall be accomplished by the use of equation:

$$E = 3.59 P^{0.62} \quad P < 30 \text{ tons/hr}$$

and interpolation or extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 17.31 P^{0.16} \quad P > 30 \text{ tons/hr}$$

Where: E = Emission in pounds per hour
P = Process weight rate in tons per hour

- A. The provisions of this Rule shall not apply to the following source categories located in the Sacramento Valley and Mountain Counties Air Basin portions of the District:
1. Combustion equipment which derives at least 80% of its fuel input heat content from wood or wood associated waste.
 2. Incinerators.

3. Processing equipment used in conjunction with combustion sources to dry, calcine, pyrolyze, sinter or otherwise thermally condition any process material.
4. Sewage sludge incinerators, except that no person shall discharge from any sewage sludge incinerator particulate matter at a rate in excess of 1.30 lb/ton of dry sludge input. Performance tests used to determine compliance with this section shall comply with the provisions of CFR 40 Part 60, Appendix A, only.

RULE 212 STORAGE OF ORGANIC LIQUIDS

Adopted 5-24-77
(Amended 6-19-79, 9-25-90, 10-19-93, 11-03-94, 6-08-95, 6-19-97)

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100 GENERAL

101 **PURPOSE:** To limit emissions from storage tanks for organic liquids.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 Business Function: This rule applies to any facility where organic liquids having a vapor pressure greater than 25.8 mm Hg (0.5 psia) are placed, stored, or held in any stationary tank, reservoir or other bulk container.

200 DEFINITIONS

201 **EFFICIENCY**: A comparison of controlled emissions to those uncontrolled emissions which would occur from a fixed or cone roof tank in the same product service without a vapor control system. Baseline emissions shall be calculated using the criteria in API Bulletin 2518.

202 **EXEMPT COMPOUNDS**: Exempt Compounds are defined in Rule 102, Definitions.

203 **EXTERNAL FLOATING ROOF**: A vapor loss control device, consisting of a pontoon-type or double-deck-type cover that rests on the surface of the liquid contents and which is equipped with an approved closure device between the tank shell and roof edge.

204 **INTERNAL FLOATING ROOF**: A vapor loss control device consisting of a fixed roof with an internal-floating-type cover which prevents the release or emission to the atmosphere of organic vapors or gases at an efficiency equivalent to an approved external floating roof closure device.

205 **METALLIC-SHOE-SEAL**: A type of seal used to minimize evaporative losses of organic liquids from a storage tank equipped with an external floating roof. It serves a primary seal, and is constructed with vertical metal plates or "shoes", connected by braces or other devices to the circumference of the floating roof. They are partially immersed in the liquid being stored, and are suspended in such a way that they are forced outward against the inner tank wall.

206 **ORGANIC LIQUID**: Any volatile organic compound which contains hydrogen and which would exist as a liquid at actual conditions of use or storage.

207 **PRESSURE TANK**: A closed storage tank designed and constructed to (1) operate at internal pressures above one atmosphere, (2) be able to withstand the vapor pressure of the stored liquid under all storage conditions and (3) prevent at all times the loss of such material or its vapor to the atmosphere.

208 **RESILIENT-TOROID-SEAL**: A type of seal used to minimize evaporative losses of organic liquids from a storage tank equipped with an external floating roof. It is a toroidal tube, or "donut", made of fabric or other resilient material, that rests on the surface of the stored liquid. It serves as primary seal that minimizes evaporative losses from the tank. The toroid seal may be filled with air, foam, or other resilient material.

209 **STORAGE TANK**: Any stationary container, reservoir, or tank used for the storage of organic liquids.

June 19, 1997

- 210 VAPOR PRESSURE:** The vapor pressure under actual storage conditions as determined by the test methods specified in Section 502.1.
- 211 VAPOR RECOVERY SYSTEM:** A California Air Resources Board (CARB) - certified system that collects organic vapors and gases from a storage tank and either returns them to the tank or otherwise processes them to prevent or reduce emissions to the atmosphere.
- 212 VAPOR TIGHT:** A condition when the concentration of total hydrocarbons does not exceed 10,000 ppm (expressed as methane) above background, as determined by EPA Reference Method 21. Background shall be defined as the ambient concentration of organic compounds determined at least three (3) meters upwind of the potential source and not influenced by any specific emissions source.
- 213 VOLATILE ORGANIC COMPOUNDS (VOC):** Compounds which contain at least one atom of carbon, except for the Exempt Compounds.

300 STANDARDS

- 301 STORAGE TANKS WITH A CAPACITY GREATER THAN 40,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 25.8 mm Hg (0.5 psia), in any storage tank with a capacity greater than 40,000 gallons, unless such tank is (1) a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or (2) designed and equipped with one of the vapor loss control devices as specified in Sections 306, 307, and 308 of this rule.
- 302 STORAGE TANKS WITH A CAPACITY LESS THAN OR EQUAL TO 40,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 25.8 mm Hg (0.5 psia), in any storage tank with a capacity less than or equal to 40,000 gallons, unless such tank is equipped with one of the following:
- 302.1 A submerged fill pipe.
 - 302.2 An apparatus of efficiency equal to a submerged fill pipe and which has been approved by the Air Pollution Control Officer.
 - 302.3 One of the vapor loss control devices that complies with the applicable requirements of Sections 306 through 313 of this rule.
- 303 STORAGE TANKS WITH A CAPACITY GREATER THAN 20,000 GALLONS AND LESS THAN OR EQUAL TO 40,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 77.5 mm Hg (1.5 psia) in any storage tank with a capacity greater than 20,000 gallons, but less than or equal to 40,000 gallons, unless such tank is (1) a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or (2) designed and equipped with one of the vapor loss control devices as specified in Sections 306 through 313 of this rule.
- 304 ABOVE GROUND STORAGE TANKS WITH A CAPACITY GREATER THAN 10,000 GALLONS AND LESS THAN OR EQUAL TO 20,000 GALLONS:** A person shall not store any organic liquid having a vapor pressure greater than 77.5 mm Hg (1.5 psia) in any above ground storage tank with a capacity greater than 10,000 gallons, but less than or

equal to 20,000 gallons capacity, unless such tank is (1) equipped with a pressure-vacuum valve which is set to operate at a pressure within 10% of the maximum allowable working pressure of the tank, or at a pressure of at least 25.8 mm Hg (0.5 psia), or (2) equipped with a vapor loss control device as specified in Sections 306 through 313 of this rule.

305 ANY STORAGE TANK CONTAINING ORGANIC LIQUIDS WITH A VAPOR PRESSURE GREATER THAN 569 mm Hg (11 psia): A person shall not store organic liquid with a vapor pressure greater than 569 mm Hg (11 psia) in any storage tank unless such tank is (1) a pressure tank maintaining working pressures sufficient at all times to prevent organic vapor or gas loss to the atmosphere, or (2) designed and equipped with a vapor recovery system which meets the requirements of Section 308 of this rule.

306 EXTERNAL FLOATING ROOF: This vapor loss control device, as defined in Section 203, shall be equipped with a closure device that consists of two seals, one above the other; the one below shall be referred to as the primary seal and the one above shall be referred to as the secondary seal. Seal designs shall be submitted to the Air Pollution Control Officer and shall not be installed or used unless they are approved by the Air Pollution Control Officer as meeting the criteria set forth within this section and the applicable closure requirements of Sections 309 through 313 of this rule.

307 INTERNAL FLOATING ROOF: This vapor loss control device with a fixed external roof, as defined in Section 205, shall prevent the release or emission to the atmosphere of organic vapors or gases at an efficiency equivalent to a floating roof closure device which meets the applicable requirements of Sections 309 through 313 of this rule.

308 VAPOR RECOVERY SYSTEM:

308.1 Any installed vapor recovery system shall be a CARB certified vapor recovery system capable of collecting organic vapors and gases, and shall include a vapor return or disposal system capable of processing such vapors and gases to prevent their emission to the atmosphere, at an efficiency of at least 95 percent by weight, determined in accordance with the applicable test method of Section 502.2.

308.2 Any tank gauging or sampling device on a tank vented to the vapor recovery system shall be equipped with a vapor-tight cover which shall be closed at all times except during gauging or sampling.

308.3 All piping, valves and fittings shall be constructed and maintained in a vapor-tight condition, as defined in Section 212.

309 CRITERIA FOR METALLIC-SHOE-SEAL CLOSURES:

309.1 Metallic-shoe-type seals shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 61 cm (24 inches) above the stored liquid surface.

309.2 The geometry of the shoe shall be such that the maximum gap between the shoe and the tank shell is no greater than double the gap allowed by the seal gap criteria for a length of at least 46 cm (18 inches) in the vertical plane above the liquid surface.

- 309.3 There shall be no holes or tears in, or openings through the secondary seal or in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, stored liquid surface, shoe, and seal fabric.
- 309.4 The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal.
- 309.5 Any roof drain which opens directly into the organic liquid content in the tank shall be provided with a slotted membrane fabric cover, or equivalent, that covers at least 90% of the area of the opening.
- 309.6 All openings in the roof, except pressure-vacuum valves, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid. The cover, seal, or lid shall at all times be in a closed position, with no measurable gap exceeding 0.32 cm (1/8 in.), except when the device or appurtenance is in use. Pressure-vacuum valves located in the roof shall be set to within ten percent of the maximum allowable working pressure of the roof.

310 CRITERIA FOR WELDED TANKS WITH METALLIC-SHOE-SEALS: Any welded tank shell which uses a metallic-shoe-type seal shall meet the following conditions:

- 310.1 No gap between the tank shell and the primary seal shall exceed 3.8 cm (1-1/2 inches). The cumulative length of all primary seal gaps exceeding 1.3 cm (2 inch) shall be not more than 10% of the circumference; the cumulative length of all primary seal gaps exceeding 0.32 cm (1/8 inch) shall not be more than 40 percent of the circumference. No continuous gap greater than 0.32 cm (1/8 inch) shall exceed 10% of the circumference of the tank.
- 310.2 No gap between the tank shell and the secondary seal shall exceed 1.3 cm (2 inch). The cumulative length of all secondary seal gaps exceeding 0.32 cm (1/8 inch) shall not exceed 5 percent of the circumference of the tank.
- 310.3 The secondary seal shall allow easy insertion of probes up to 3.8 cm (1-1/2 inches) in width in order to measure gaps in the primary seal.

311 CRITERIA FOR RIVETED TANKS WITH METALLIC-SHOE-SEALS: Any riveted tank shell which uses a metallic-shoe-seal shall meet the following conditions:

- 311.1 No gap between the tank shell and the primary seal shall exceed 6.4 cm (2-1/2 in.). The cumulative length of all primary seal gaps exceeding 3.8 cm (1-1/2 in.) shall not be more than 10% of the circumference.
- 311.2 The secondary seal shall consist of at least two sealing surfaces, such that the sealing surfaces prevent the emission of organic compounds around the rivets. Serrated sealing surfaces are allowable if the length of serration does not exceed 15.2 cm (6 in.). No gap between the tank shell and the secondary seal shall exceed 1.3 cm (2 in.). The cumulative length of all secondary seal gaps exceeding 0.32 cm (1/8 in.) shall not be more than 5% of the circumference.

311.3 The secondary seal shall allow easy insertion of probes up to 3.8 cm (1-1/2 inches) in width in order to measure gaps in the primary seal.

312 CRITERIA FOR RESILIENT-TOROID-SEAL: Any storage tank which uses a resilient-toroid-type seal shall meet the following conditions:

312.1 No gap between the tank shell and the primary seal shall exceed 1.3 cm (2 inch). The cumulative length of all gaps exceeding 0.32 cm (1/8 inch) shall not be more than 5% of the circumference.

312.2 No gap between the tank shell and the secondary seal shall exceed 1.3 cm (2 inch). The cumulative length of all gaps exceeding 0.32 cm (1/8 inch) shall not be more than 5% of the circumference.

312.3 The secondary seal shall allow easy insertion of probes up to 1.3 cm (2 inch) in width in order to measure gaps in the primary seal.

312.4 There shall be no holes or tears in, or openings through the secondary seal or in the primary seal envelope surrounding the annular vapor space enclosed by the roof edge, stored liquid surface, shoe, and seal fabric.

313 CRITERIA FOR WELDED TANKS WITH ZERO GAP SECONDARY SEALS: Any welded tank shell which uses a zero gap secondary seal must meet the following conditions:

313.1 No gap between the tank shell and the primary seal shall exceed 3.8 cm (1-1/2 inches). The cumulative length of all primary seal gaps exceeding 1.3 cm (2 inch) shall be not more than 10% of the circumference and the cumulative length of all primary seal gaps exceeding 0.32 cm (1/8 inch) shall not be more than 40% of the circumference. No continuous gap greater than 0.32 cm (1/8 inch) shall exceed 10% of the circumference of the tank.

313.2 No gap between the tank shell and the secondary seal shall exceed 1.5 mm (0.06 in.). The cumulative length of all secondary seal gaps exceeding 0.5 mm (0.02 inch) shall not exceed 5% of the circumference of the tank, excluding gaps less than 5 cm (1.79 in.) from vertical weld seams.

313.3 The secondary seal must exert a positive pressure against the tank shell such that the seal surface in contact with the tank shell does not pull away from the tank shell more than the gaps allowed in Section 313.2.

400 ADMINISTRATIVE REQUIREMENTS

401 PRIMARY SEAL INSPECTION:

401.1 The primary seal envelope shall be made available for unobstructed inspection by the District on an annual basis at four locations selected along its circumference at random by the APCO. If the District detects one or more violations as a result of any such inspection, the District may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. The District shall also have the authority to require more inspection locations if the inspector suspects the possibility of a cumulative gap criteria violation.

- 401.2 In addition, for tanks with secondary seals the primary seal envelope shall be made available for inspection by the District prior to the installation of the secondary seal. For tanks with secondary seals installed before June 19, 1979, the primary seal envelope shall be made available for unobstructed inspection by the District for its full length every 5 years after June 19, 1979, except that if the secondary seal is voluntarily removed by the owner or operator prior thereto, it shall be made available for such inspection at that time. The owner or operator shall provide notification to the District no less than 7 working days prior to voluntary removal of the secondary seal.

500 MONITORING AND RECORDS

501 RECORD-KEEPING:

- 501.1 A person whose tanks are subject to this Rule shall keep an accurate record of liquids stored in such containers and the vapor pressure ranges of such liquids.
- 501.2 Accurate records of throughput and stock temperature shall also be maintained.
- 501.3 Records shall include the number of organic liquid storage tanks serviced and their respective capacities in gallons.
- 501.4 Records shall be retained for a period of at least 2 years, and shall be retained at least 5 years by sources subject to the requirements of Rule 507, Federal Operating Permit Program, and made available to the Air Pollution Control Officer on request.
- 501.5 In addition to the record-keeping requirements specified herein, all applicable provisions of Rule 410, Record-keeping for Volatile Organic Compounds Emissions, shall be met.

502 TEST METHODS

- 502.1 Vapor Pressure Determination: The vapor pressure under actual storage conditions is determined by ASTM method D-2879-83 or ASTM method D-323-82.
- 502.2 Vapor Recovery System Testing: The determination of the overall vapor recovery system efficiency required in Section 308 shall be made using the following test procedures, as applicable:
- 502.2.1 California Air Resources Board Test Method TP 202.1, Determination of Emission Factor of Vapor Recovery Systems at Gasoline Bulk Plants®
- 502.2.2 California Air Resources Board Test Method TP 203.1, Determination of Emission Factor of Vapor Recovery Systems at Gasoline Terminals®
- 502.3 Vapor-Tight Condition Testing: EPA Reference Method 21 shall be used to test for vapor-tight condition.

RULE 213 GASOLINE TRANSFER INTO STATIONARY STORAGE CONTAINERS

Adopted 06-19-79
(Amended 04-21-81, 05-20-85, 09-25-90, 10-19-93)

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1.0 GENERAL

1.1 APPLICABILITY

- 1.1.1 The provisions of this rule shall apply to the transfer of gasoline into any stationary storage containers, except as provided in Section 3.2 of this rule.

2.0 DEFINITIONS

- 2.1 AVERAGE MONTHLY THROUGHPUT - is defined as the total gasoline unloaded and dispensed in the most recent full calendar year from the facility's storage tanks divided by twelve.
- 2.2 GASOLINE - is defined as Petroleum distillates used as motor fuel with a Reid vapor pressure greater than 4.0 pounds.
- 2.3 GASOLINE BULK PLANT - is defined as a distributing facility, with a throughput less than or equal to 20,000 gallons a day, which receives gasoline, stores it in stationary tanks, and loads it into tank trucks for delivery to service stations or other distribution points.
- 2.4 GASOLINE VAPORS - are defined as the displaced vapors including any entrained liquid gasoline.
- 2.5 LEAK FREE - is defined as a liquid leak of less than three drops per minute excluding losses which occur upon disconnecting transfer fittings, provided such disconnect losses do not exceed 10 milliliters (0.34 fluid ounces) per disconnect, averaged over three disconnects.
- 2.6 REID VAPOR PRESSURE - is defined as the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquefied petroleum gases, and determined by ASTM-323-58.
- 2.7 SUBMERGED FILL PIPE - is defined as any fill pipe, the discharge opening of which is entirely submerged when the liquid level is 6.0 inches above the bottom of the container. "Submerged fill pipe" when applied to a container which is loaded from the side is defined as any fill pipe the discharge opening of which is entirely submerged when the liquid level is 18.0 inches above the bottom of the container.
- 2.8 VAPOR TIGHT - is defined as the concentration of total hydrocarbons, measured 1 cm from any source, not to exceed 10,000 ppm (expressed as methane) above background, as determined by EPA Reference Method 21.
- 2.9 VAPOR TIGHT GASOLINE CARGO TANK - is defined as a leak that does not exceed the standards as specified in EPA Reference Test Method 27.

3.0 STANDARDS

3.1 TRANSFER PROVISIONS

- 3.1.1 A person shall not transfer or permit the transfer of gasoline from any tank truck or trailer into any stationary storage container with a capacity of more than 250 gallons unless such container is provided with a permanent submerged fill pipe and unless such transfer is made under the following conditions:

- 3.1.2 The displaced gasoline vapors or gases are processed by a vapor recovery system that shall collect at least 95 percent by weight, as determined by ARB Test Method 2-3, of the hydrocarbon vapors vented during filling of the stationary storage container and the system has been certified for installation by the California Air Resources Board.
- 3.1.3 Transfer is made to a storage container equipped as required in RULE 212.
- 3.1.4 Loading shall be accomplished in such a manner that all displaced vapor and air will be vented only to the vapor recovery system. Measures shall be taken to ensure that the loading device is leak free when it is not in use and to accomplish complete drainage before the loading device is disconnected.
- 3.1.5 The vapor recovery system shall be maintained and operated so that it does not cause the pressure in a gasoline delivery vessel to exceed 18 inches water gauge or the vacuum to exceed 6 inches water gauge.
- 3.1.6 All vapor recovery equipment and gasoline loading equipment shall be maintained in good working order and shall be leak free and vapor tight.
- 3.1.7 In no instance shall the gasoline loading operations exceed the capacity of the vapor processing unit.
- 3.1.8 No person shall store gasoline in or otherwise use or operate any gasoline delivery vessel unless such vessel is designed and maintained to be leak free and vapor tight. Any delivery vessel into which gasoline vapors have been transferred, shall be refilled only at a gasoline bulk plant or terminal that is equipped with a system that prevents at least 95 percent by weight of the gasoline vapors displaced from entering the atmosphere.
- 3.1.9 A person shall not operate any gasoline loading facility which is not subject to the provisions of RULE 215 unless:
- 3.1.10 The facility is equipped and operated with a system or systems to prevent the release to the atmosphere of at least 95 percent by weight, as determined by ARB Test Method 2-3, of the gasoline vapors displaced during the filling of the facility's stationary storage containers; and
- 3.1.11 The facility is equipped and operated with a pressure-vacuum relief valve on the above ground stationary storage containers with a minimum pressure valve setting of 90 percent of the maximum safe pressure and vacuum ratings of the containers, provided that such setting will not exceed the container's maximum pressure rating.

3.2 EXEMPTIONS

- 3.2.1 The provisions of this Rule shall not apply to the transfer of gasoline into any stationary storage container:
- 3.2.2 Which has a capacity of less than 550 gallons and is used exclusively for the fueling of implements of husbandry as such vehicles are defined in Division 16 (Section 3600 et seq.) of the California Vehicle Code, if such container is equipped with a permanent submerged fill pipe.

- 3.2.3 With a capacity of 2,000 gallons or less and installed before January 1, 1979, if such container is equipped with a permanent submerged fill pipe.

3.3 TEST METHODS

- 3.3.1 Reference methods for compliance testing for this rule are specified in 40 CFR 60.503.
- 3.3.2 EPA Reference Method 21 shall be used to test for vapor tight condition or liquid leaks.

4.0 ADMINISTRATIVE

4.1 COMPLIANCE SCHEDULE

- 4.1.1 Any source of emission subject to this Rule, installed on or after January 1, 1979, shall comply with the provisions of this Rule no later than six months from the date of adoption.

4.2 RECORD-KEEPING

- 4.2.1 The owner or operator of any facility subject to the provisions of this rule shall prepare a daily log of the throughput and a summary of the throughput for the calendar year to date of the liquid compounds subject to the provisions of this rule. Such records shall be maintained at the facility for at least 2 years and shall be made available to the APCO upon request.
- 4.2.2 Records shall include the number of gasoline storage tanks serviced and their respective capacities in gallons.
- 4.2.3 In addition to the record-keeping requirements specified herein, all provisions of Regulation IV, RULE 410, when applicable, must still be adhered to.

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RULE 214 TRANSFER OF GASOLINE INTO VEHICLE FUEL TANKS

Adopted 06-19-79
(Amended 04-21-81)

- A. A person shall not transfer or permit the transfer of gasoline from a stationary storage container subject to the provisions of RULE 213(A) into any motor vehicle fuel tank of greater than 5 gallons capacity unless such transfer is made through a fill nozzle which directs the gasoline vapors displaced by the transfer through the fill nozzle to a system, certified for installation by the California Air Resources Board, that will prevent at least 95 percent by weight of such gasoline vapors from entering the atmosphere.
- B. The provisions of Section (A) shall not be subject to gasoline dispensing facilities located in that part of Placer County east of Range 8, Mount Diablo Base and Meridian.
- C. Any gasoline dispensing system subject to this Rule, installed after June 19, 1978 shall comply with the provisions of this Rule at the time of installation.
- D. Gasoline dispensing equipment used to comply with the provisions of this Rule shall comply with all applicable safety, fire, weights and measures, and other applicable codes and/or regulations.
- E.
 - 1. For the purposes of this Rule, the term "gasoline" is defined as any petroleum distillate having a Reid vapor pressure of 4 pounds or greater.
 - 2. For the purposes of this Rule, "motor vehicle" is defined as any vehicle registered with the California Department of Motor Vehicles.

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RULE 215 TRANSFER OF GASOLINE INTO TANK TRUCKS, TRAILERS AND RAILROAD TANK CARS AT LOADING FACILITIES

Adopted 6-19-79
(Amended 9-25-90, 11-03-94, 6-19-97)

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100 GENERAL

101 PURPOSE: To limit the emissions of volatile organic compounds (VOC) during gasoline transfer operations at bulk plants and bulk terminals.

102 APPLICABILITY:

102.1 Geographic: This provisions of this rule apply to all of Placer County.

102.2 Business Function: This rule applies to any bulk plant or bulk terminal where gasoline is loaded into a truck, trailer or railroad tank car, and to any person who owns, operates or is employed at such facility.

200 DEFINITIONS

201 BULK PLANT: A gasoline distribution facility which receives gasoline exclusively by tank truck from a refinery or bulk terminal and has a throughput less than or equal to 20,000 gallons per day or 5,000,000 gallons per year.

202 BULK TERMINAL: A gasoline distribution facility which receives gasoline from a refinery by pipeline, ship, or barge and has a throughput greater than 20,000 gallons per day or 5,000,000 gallons per year.

203 CAPACITY: The maximum volumetric quantity of liquid that may be stored in a tank.

204 EXEMPT COMPOUNDS: Exempt compounds are as defined in Rule 102, Definitions.

205 GASOLINE: Any organic liquid (including petroleum distillates and methanol) having a Reid Vapor Pressure of 4.0 pounds or greater and used as a motor vehicle fuel, or any fuel which is commonly or commercially known or sold as gasoline.

206 GASOLINE VAPORS: The displaced vapors including any entrained liquid gasoline.

207 LEAK FREE: Any liquid leak of less than three drops per minute excluding losses which occur upon disconnecting transfer fittings, provided such disconnect losses do not exceed 10 milliliters (0.34 fluid ounces) per disconnect, averaged over three contiguous disconnects.

208 ORGANIC LIQUID: Any volatile organic compound which contains hydrogen and which would exist as a liquid at actual conditions of use or storage.

209 REID VAPOR PRESSURE: The absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquefied petroleum gases, and determined by ASTM-323-58.

210 SWITCH LOADING: The transfer of organic liquids with a Reid Vapor Pressure of less than 4.0 lbs into a delivery vessel where the previous load was gasoline.

211 VAPOR TIGHT: A condition when the concentration of total hydrocarbons does not exceed 10,000 ppm (expressed as methane) above background, as determined by EPA Reference Method 21. Background shall be defined as the ambient concentration of organic compounds determined at least three (3) meters upwind of the potential source and not influenced by any specific emissions source.

June 19, 1997

212 VOLATILE ORGANIC COMPOUNDS: Compounds which contain at least one atom of carbon, except for the Exempt Compounds.

300 STANDARDS

301 TRANSFER PROVISIONS:

301.1 Vapor Recovery System Certification: A person shall not load gasoline into any tank truck, trailer, or railroad tank car from any bulk plant or bulk terminal, unless the loading device or equipment is equipped with a California Air Resources Board certified vapor recovery and disposal system.

301.2 Loading Procedures: Loading shall be accomplished in such a manner that all displaced vapor and air will be vented only to the vapor recovery system. Measures shall be taken to ensure complete drainage before the loading device is disconnected and the loading device shall be maintained in a vapor tight and leak free condition when not in use.

301.3 Bulk Plants: A person shall not transfer or permit the transfer of gasoline into any tank truck, trailer, or railroad tank car unless the emission of gasoline vapors and gases to the atmosphere does not exceed 0.6 pounds of Volatile Organic Compounds (VOC) per one thousand (1,000) gallons of gasoline transferred as determined by a method specified in Section 502.1.

301.4 Bulk Terminals: A person shall not transfer or permit the transfer of gasoline into any tank, truck, trailer, or railroad tank car unless the emission of gasoline vapors and gases to the atmosphere does not exceed 0.08 pounds of Volatile Organic Compounds (VOC) per one thousand (1,000) gallons of gasoline transferred as determined by the method specified in Section 502.2.

302 OTHER OPERATING REQUIREMENTS:

302.1 The loading facility vapor recovery system shall not create a back-pressure in excess of the pressure limits of the delivery vessel certification leak test (18 inches of water gauge).

302.2 All vapor recovery equipment and gasoline loading equipment shall be maintained in good working order and shall be leak free and vapor tight.

302.3 Switch loading shall be subject to Sections 301.3 and 301.4 of this rule.

302.4 Transfer equipment shall be configured to require that the gasoline delivery vessel be bottom loaded.

302.5 In no instance shall the gasoline loading operations exceed the capacity of the vapor processing unit.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

- 401.1 By November 3, 1995, any person subject to this rule shall submit an application for Authority to Construct for any modifications required to achieve compliance with the requirements of this rule.
- 401.2 By November 3, 1996, any person subject to this rule shall demonstrate final compliance with all applicable standards and requirements of this rule. Compliance with Section 301 shall constitute compliance with Section 401 unless it is determined that the equipment does not comply with section 301.3 and 301.4.

500. MONITORING AND RECORDS

501 RECORD-KEEPING:

- 501.1 The owner or operator of any facility subject to the provisions of this rule shall prepare a daily log of the throughput and a summary of the throughput for the calendar year to date of the liquid compounds subject to the provisions of this rule. Such records shall be retained at the facility for at least 2 years, and shall be retained for at least 5 years for sources subject to the requirements of Rule 507, Federal Operating Permit Program, and shall be made available to the Air Pollution Control Officer upon request.
- 501.2 Records shall include the number of petroleum storage tanks serviced and their respective capacities in gallons.
- 501.3 In addition to the record-keeping requirements specified herein, all provisions of Rule 410, Record-keeping for Organic Compound Emissions, shall apply.

502 TEST METHODS: Reference test methods for compliance testing shall be the following, as applicable:

- 502.1 California Air Resources Board Test Method TP 202.1, Determination of Emission Factors of Vapor Recovery Systems at Gasoline Bulk Plants
- 502.2 California Air Resources Board Test Method TP 203.1, Determination of Emission Factors of Vapor Recovery Systems at Gasoline Terminals
- 502.3 EPA Reference Method 21 shall be used to test for vapor tight condition or liquid leaks.

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RULE 216 ORGANIC SOLVENT CLEANING AND DEGREASING OPERATIONS

Adopted 06-19-79
(Amended 04-21-81, 09-25-90, 11-03-94, 06-08-95)

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100 GENERAL

101 **PURPOSE:** To limit the emission of volatile organic compounds from degreasers.

102 **EXEMPTIONS:**

- 102.1 Solvents Containing Less Than 2% VOC: Solvent cleaning operations using solvent (including emulsions) containing no more than 2 percent of volatile organic compounds (wt) as determined by EPA Method 24 shall not be subject to the requirements of this rule.
- 102.2 Cold Cleaners: The provisions of Section 302, of this rule do not apply to non-vapor degreasers which have an air-solvent interface area less than or equal to 1.0 ft², except for requirements that cleaners shall be covered when work is not being processed, or to remote reservoir degreasers using a non-volatile solvent spray which is drained into the remote reservoir concurrently with the degreasing operation.

200 DEFINITIONS

201 **CONVEYORIZED DEGREASER:** Any continually loaded, conveyORIZED degreaser, using solvent that is maintained either above or below the initial boiling point temperature of the solvent.

202 **DEGREASER:** A container that contains solvent or into which solvent is sprayed and concurrently drained, used to remove oil, grease, soil, coating, dirt or other undesirable matter from workloads.

203 **EXEMPT COMPOUNDS:** The following compounds are exempt from the definition of VOC in Section 217:

- 203.1 Methane
- 203.2 Carbon dioxide
- 203.3 Carbon monoxide
- 203.4 Carbonic acid
- 203.5 Metallic carbides or carbonates
- 203.6 Ammonium carbonate
- 203.7 1,1,1-trichloroethane
- 203.8 Methylene chloride
- 203.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
- 203.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
- 203.11 Trichlorofluoromethane (CFC-11)
- 203.12 Dichlorodifluoromethane (CFC-12)
- 203.13 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113)
- 203.14 1-chloro-1,1-difluoro-2-chloro-2,2-difluoroethane (CFC-114)
- 203.15 Chloropentafluoroethane (CFC-115)
- 203.16 Pentafluoroethane (HFC-125)
- 203.17 1,1,2,2-tetrafluoroethane (HFC-134)
- 203.18 Tetrafluoroethane (HFC-134a)
- 203.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 203.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 203.21 1,1,1-trifluoroethane (HFC-143a)
- 203.22 Chlorodifluoromethane (HCFC-22)
- 203.23 Trifluoromethane (HFC-23)
- 203.24 Difluoroethane (HFC-152a)

203.25 The following four classes of perfluorocarbon compounds:

- a. Cyclic, branched, or linear, completely fluorinated alkanes.
- b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
- c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
- d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

204 FREEBOARD HEIGHT:

204.1 For non-vapor degreasers, freeboard height means the distance from the top of the solvent, or the solvent drain of a remote reservoir cold cleaner, to the top of the tank.

204.2 For vapor degreasers, freeboard height means the distance from the solvent vapor-air interface to the top of the degreaser.

204.3 For conveyORIZED degreasers, freeboard height means the vertical distance from the top of the solvent (non-vapor solvent) or the top of the vapor-air interface (vapor degreaser), to the bottom of the lowest opening where solvent vapors can escape.

205 FREEBOARD RATIO: The freeboard height divided by the smaller of the inside length or the inside width of the degreaser's evaporative surface area.

206 LEAK: Three or more drops of liquid solvent per minute.

207 LIP EXHAUST: A system which collects solvent vapors escaping from the top of a degreaser and directs them away from operating personnel.

208 LOW VOLATILITY SOLVENT: Any solvent with an initial boiling point which is greater than 248°F (120°C) and with a temperature as used, at least 100°C (180°F) below the initial boiling point as determined pursuant to Section 502.1.

209 MAKEUP SOLVENT: The solvent added to the degreaser to replace solvent lost through evaporation or other means.

210 NON-VAPOR DEGREASER: Any degreaser using solvent which, if heated, is maintained below the initial boiling point temperature of the solvent.

211 OPEN-TOP VAPOR DEGREASER: Any batch-loaded degreaser using solvent which is maintained above the initial boiling point temperature of the solvent. Degreasing occurs through the condensation of the resultant solvent vapor onto the surface of the workload.

212 OSHA: Occupational Safety and Health Administration.

- 213 REFRIGERATED FREEBOARD CHILLER:** A secondary cooling coil mounted above the primary condenser which provides a chilled air blanket above the solvent vapor-air interface to cause the condensation of additional solvent vapor, thereby increasing vapor control efficiency.
- 214 REMOTE RESERVOIR DEGREASER:** A non-vapor degreaser with a tank which is completely enclosed except for a solvent return opening no larger than 15.50 square inches (100 square centimeters) which allows used solvent to drain into it from a separate solvent sink or work area and which is not accessible for soaking workloads.
- 215 SOLVENT:** VOC-containing compounds which are used as diluents, thinners, dissolvers, viscosity reducers, or cleaning agents.
- 216 STATIONARY SOURCE (SOURCE OR FACILITY):** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as fugitive emissions.
- 216.1 Building, structure, facility, or emissions unit includes all pollutant emitting activities which:
- a. belong to the same industrial grouping, and;
 - b. are located on one property or on two or more contiguous properties, and;
 - c. are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- 216.2 Pollutant emitting activities shall be considered as part of the same industrial grouping if:
- a. they belong to the same two-digit standard industrial classification code under the system described in the 1987 Standard Industrial Classification Manual, or;
 - b. they are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 217 VOLATILE ORGANIC COMPOUNDS (VOC):** Compounds containing at least one atom of carbon, except for the compounds listed in Section 203.
- 218 VOLATILE SOLVENT:** Any solvent which is not defined as a low volatility solvent pursuant to Section 208.
- 219 WIPE CLEANING:** That method of cleaning which utilizes a material such as a rag wetted with a solvent, coupled with a physical rubbing process to remove contaminants from surfaces.
- 220 WORKLOAD:** The objects put in a degreaser for the purpose of removing oil, grease, soil, coating, dirt or other undesirable matter from the surface of the objects.

300 STANDARDS

301 GENERAL EQUIPMENT REQUIREMENTS: Any person who uses a degreaser shall utilize the following equipment:

- 301.1 An apparatus or cover which prevents the solvent from evaporating when not processing work in the degreaser.
- a. For non-vapor degreasers using volatile solvent, or solvent that is agitated, the cover should be a sliding, rolling or guillotine (bi-parting) type which can be opened and closed easily with one hand.
 - b. For open-top vapor degreasers, the cover should be a sliding, rolling or guillotine (bi-parting) type which can be opened and closed easily without disturbing the vapor zone.
 - c. For conveyorized degreasers, a cover shall be provided for closing off the entrance and exit during shutdown hours.
- 301.2 A facility for draining cleaned parts such that the drained solvent is returned to the container.
- 301.3 A permanent, conspicuous label which summarizes operating requirements contained in Sections 303, through 306, of this rule.

302 NON-VAPOR DEGREASERS; EQUIPMENT REQUIREMENTS: A person shall operate non-vapor degreasers, including remote reservoirs (except as noted in Section 102.2), using one of the following control devices:

- 302.1 Non-vapor degreasers shall operate with a freeboard ratio equal to or greater than 0.75 if using solvents which are:
- a. Agitated, or
 - b. Heated above 122°F (50°C), or
 - c. Volatile.

A water cover may be used as an acceptable alternative, if the solvent is insoluble in water and has a specific gravity greater than 1.

- 302.2 Non-vapor degreasers using only low volatility solvents which are not agitated shall operate with a freeboard height of at least 6 inches.
- 302.3 A permanent conspicuous mark shall identify the location of the maximum allowable solvent level conforming to the applicable freeboard requirements.

303 VAPOR DEGREASERS; EQUIPMENT REQUIREMENTS: A person shall operate vapor degreasers using all of the following control devices:

- 303.1 A freeboard ratio greater than or equal to 0.75.
- 303.2 For cleaners with an evaporative surface area greater than or equal to 1 square meter, shall be equipped with a refrigerated freeboard chiller for which the chilled air blanket temperature (°F) at the coldest point on the vertical axis in the center of the air-vapor interface shall be no greater than 30% of the initial boiling point (°F) of the fresh solvent used or no greater than 40°F. If the chiller operates below the freezing temperature of water, it shall be equipped with an automatic defrost.

- 303.3 A primary condenser.
- 304 VAPOR DEGREASERS; SAFETY SWITCHES:** If a vapor degreaser is used, then the following equipment shall be utilized:
- 304.1 A device which shuts off the sump heater if the condenser coolant stops circulating or becomes warmer than specified.
- 304.2 For degreasers of the spray type, a device which prevents spray pump operation unless the solvent vapor level is at the designed operating level.
- 304.3 A device (of the manual reset type) which shuts off the sump heater if the solvent vapor level rises above the designed operating level.
- 305 CONVEYORIZED DEGREASERS:** In addition to the requirements of Sections 301.2, and 301.3, a person shall not operate a conveyORIZED degreaser unless it is equipped with the following control devices:
- 305.1 Either a drying tunnel or other means such as a rotating basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor.
- 305.2 Minimized opening: entrances and exits should silhouette workloads so that the average clearance between parts and the edge of the degreaser opening is either less than 4 inches (10 cm) or less than 10 percent of the width of the opening.
- 305.3 A primary condenser.
- 305.4 A vapor level control thermostat.
- 305.5 A condenser flow switch.
- 305.6 A spray safety switch.
- 305.7 A freeboard ratio greater than or equal to 0.75 which is physically verifiable, or a refrigerated freeboard chiller for which the chilled air blanket temperature (°F) at the coldest point on the vertical axis in the center of the air-vapor interface shall be no greater than 30 percent of the initial boiling point (°F) of the solvent used or no greater than 40°F. If the chiller operates below the freezing temperature of water, it shall be equipped with an automatic defrost.
- 306 GENERAL OPERATING REQUIREMENTS:** Any person who uses a degreaser must conform to the following operating requirements:
- 306.1 Operate and maintain the degreaser and emission control equipment in proper working order.
- 306.2 Do not allow any solvent to leak from any portion of the degreaser.
- 306.3 All solvent, including waste solvent and waste solvent residues, shall be stored in closed containers at all times. The containers shall have a label indicating the name of the solvent/material they contain.

- 306.4 If distillation recovery of waste solvent is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.
- 306.5 Waste solvent and waste solvent residues, shall be disposed of by one of the following methods:
- a. A commercial waste solvent reclamation service licensed by the State of California.
 - b. At a facility that is federally or state licensed to treat, store, or dispose of such waste.
 - c. Recycling in conformance with Section 25143.2 of the California Health and Safety Code.
- 306.6 Do not remove or open any device designed to cover the solvent unless processing work in the degreaser or performing maintenance on the degreaser.
- 306.7 Drain cleaned parts after cleaning until dripping ceases (non-vapor degreaser only).
- 306.8 If using a solvent flow, use only a continuous, fluid stream (not a fine, atomized, or shower type spray) at a pressure which does not cause liquid solvent to splash outside of the degreaser.
- 306.9 Perform solvent agitation, where necessary, by means other than air agitation.
- 306.10 Do not degrease porous or absorbent materials such as cloth, leather, wood, or rope.
- 306.11 For vapor degreasers:
- a. Workloads shall not occupy more than half of the degreaser's evaporative surface area.
 - b. Solvent spray shall be kept at least 4 inches below the air-vapor interface.
 - c. When starting the degreaser, the cooling system shall be turned on before, or simultaneously with, the sump heater.
 - d. When shutting down the degreaser, the sump heater shall be turned off before, or simultaneously with, the cooling system.
 - e. The degreaser shall be covered whenever the cooling system is off.
- 306.12 A person shall minimize solvent carry-out by the following measures, as applicable:

- a. Rack workload to facilitate drainage;
- b. Move workload in and out of the degreaser at less than 3.3 m/min (11 ft/min);
- c. Degrease the workload in the vapor zone until condensation ceases;
- d. Allow workload to dry within the degreaser until visually dry;
- e. For manual operation, tip out any pools of solvent remaining on the workload before removing it from the degreaser.

306.13 A cleaner shall not be located where drafts are directed across the cleaner.

306.14 For those cleaners equipped with water separators, no solvent shall be visually detectable in the water exiting the water separator.

306.15 Wipe cleaning materials containing solvent shall be kept in closed containers at all times, except during use.

307 LIP EXHAUST: Effective November 3, 1995, a lip exhaust system shall not be added to any degreaser, unless it is vented to an emission control system, pursuant to Section 308. The lip exhaust shall be turned off when the degreaser is covered.

308 ALTERNATE EMISSION CONTROL SYSTEM REQUIREMENTS: Any person or stationary source subject to this rule may use an emissions control system as an alternative to Sections 302, or 303.1 and 303.2, provided that the system has an overall control efficiency (the collection efficiency multiplied by the control efficiency) of at least 85 percent on a mass basis, as determined pursuant to Sections 502.2, and 502.3. The emission collection system shall have a ventilation rate not greater than 20 cubic meters per minute per square meter over the total area of the degreaser's evaporative surface area, unless the rate must be changed to meet Federal and State OSHA requirements. The system must be approved in writing by the Air Pollution Control Officer.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: Any person or stationary source subject to this rule, including previously exempt sources, shall be in compliance with this rule by November 3, 1995.

402 CALCULATION FOR DETERMINATION OF VOC CONTENT PER VOLUME OF SOLVENT: The volume of solvent is defined as the volume of the original solvent, plus any VOC-containing material added to the original solvent. The weight of VOC per volume of solvent shall be calculated by the following equation:

$$(W_v - W_w - W_{ec}) / (V_s)$$

Where:

W_v	=	Weight of all volatile compounds.
W_w	=	Weight of water.

W_{ec}	=	Weight of compounds listed as exempt in Section 203 from the definition of VOC.
V_s	=	Volume of solvent

403 OPERATION AND MAINTENANCE PLAN: Any person using an approved emission control device pursuant to Section 308, as a means of complying with this rule, as provided in Sections 303, or 303.1 and 303.2, must submit, with the application for Authority to Construct, pursuant to Rule 501, GENERAL PERMIT REQUIREMENTS, an Operation and Maintenance Plan for the emission control device to the Air Pollution Control Officer for approval. Plans for emission control devices installed as of November 3, 1994, if not previously submitted, must be submitted by August 3, 1995, and receive approval of the Air Pollution Control Officer. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the emission control device during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operation and maintenance procedures. These records shall comply with the requirements of Sections 501.2, and 501.3. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

501 USAGE RECORDS: In addition to any existing permit conditions issued pursuant to Rule 501, effective November 3, 1995, any person subject to this rule shall comply with the following requirements:

- 501.1 Usage Amounts: The person shall record on a quarterly basis the type and total volume for the stationary source of makeup solvent used for all cleaners subject to this rule. Records shall be kept for each time waste solvent or waste residue is removed from the facility for disposal.
- 501.2 Control Equipment: Any person using an emission control system pursuant to Section 308, as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan in Section 403, on a daily basis.
- 501.3 Duration of Records: Such records shall be maintained on-site for two years, 5 years for sources subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM, and made available for review by the Air Pollution Control Officer upon request.

502 TEST METHODS

- 502.1 Determination of Boiling Point: The initial boiling point of solvents shall be determined in accordance with ASTM D 1078-86.
- 502.2 Determination of Control Efficiency: The exhaust vapor concentration from a control device shall be determined by EPA Test Methods 25 and 25A (40 CFR 60, Appendix A).
- 502.3 Determination of Collection Efficiency: Collection efficiency of the collection system shall be determined in accordance with EPA protocols referenced in 40 CFR 52.741(a)(4)(iii).
- 502.4 Determination of Volumetric Flowrate: Volumetric flowrate shall be

determined in accordance with EPA Methods 2, 2A, 2C, and 2D (40 CFR 60, Appendix A).

- 502.5 Determination of VOC Content: VOC content of solvents shall be determined in accordance with EPA Method 24 and Sections 402, and 502.6, of this rule.
- 502.6 Determination of Compounds Exempt From VOC Definition: Compounds exempted from the VOC definition, as listed in Section 203 of this rule, shall be determined in accordance with ASTM D 4457-85 or California Air Resources Board Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

RULE 217 CUTBACK AND EMULSIFIED ASPHALT PAVING MATERIALS

Adopted 06-19-79
(Amended 05-20-85, 09-25-90)

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1.0 GENERAL

1.1 APPLICABILITY

- 1.1.1 A person shall not discharge to the atmosphere volatile organic compounds (VOC's) caused by the use or manufacture of Cutback or Emulsified asphalts for paving, road construction or road maintenance, unless such manufacture or use complies with the provisions of this Rule.

1.2 EXEMPTIONS

- 1.2.1 The provisions of Section 3.0 shall not apply to:
- 1.2.2 The use of cutback asphalt or emulsified asphalt in the manufacturing of paving materials where such materials are for immediate shipment and eventual use outside of the County of Placer, State of California, and where such area is designated as attainment for the State and Federal Ozone Standard.
- 1.2.3 The use of medium cure cutback asphalt during the months of the year when the National Weather Service forecasts that atmospheric temperature for the 24-hour period following application will not exceed 10°C (50°F).

2.0 DEFINITIONS

- 2.1 ASPHALT - is defined as a dark brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.
- 2.2 CUTBACK ASPHALT - is defined as paving grade asphalts liquefied with petroleum distillate and conforming to specifications of the American Society for Testing & Materials (ASTM) as follows:

Rapid Cure Type:	ASTM D2028
Medium Cure Type:	ASTM D2027
Slow Cure Type:	ASTM D2026

- 2.3 EMULSIFIED ASPHALT - is defined as any asphalt liquefied with water containing an emulsifier.
- 2.4 PAVING MATERIAL - is defined as a mixture consisting mainly of an asphalt and aggregate.
- 2.5 PAVING AND MAINTENANCE OPERATIONS - is defined as all activities involved in the new construction and maintenance of roadways and parking areas.

3.0 STANDARDS

3.1 CUTBACK ASPHALT

- 3.1.1 A person shall not manufacture for sale nor use for paving, road construction or road maintenance any:
- 3.1.2 Rapid cure cutback asphalt;

- 3.1.3 Slow cure cutback asphalt containing organic compounds which evaporate at 260° C (500° F) or lower as determined by current ASTM Method D402;
- 3.1.4 Medium cure cutback asphalt except as provided in Section 1.2.

3.2 EMULSIFIED ASPHALT

- 3.2.1 A person shall not manufacture for paving, road construction or road maintenance any emulsified asphalt containing organic compounds which evaporate at 260° C (500° F) or lower as determined by current ASTM Method D244, in excess of three percent by volume.

4.0 ADMINISTRATIVE

4.1 TEST METHODS

- 4.1.2 Analysis of **Cutback Asphalt** samples for VOC content shall be in accordance with current ASTM Method D402.
- 4.1.3 Analysis of **Emulsified Asphalt** samples for VOC content shall be in accordance with current ASTM Method D244, in excess of three percent by volume.

4.2 RECORD-KEEPING

- 4.2.1 Any person who manufactures or uses cutback asphalts and emulsified asphalts which contain solvents shall comply with the following requirements:
- 4.2.2 The manufacturer shall maintain records showing the types and amounts of cutback asphalts and emulsified asphalts which contain solvents produced and the destination of these products.
- 4.2.3 The users shall maintain records showing the types, amounts received, and amounts used of cutback asphalts and emulsified asphalts which contain solvents.
- 4.2.4 Such records shall be maintained daily and retained and available for inspection by the APCO for the previous 24 month period.
- 4.2.5 In addition to the record-keeping requirements as specified herein, all provisions of Regulation IV, Rule 410, when applicable, must still be adhered to.

RULE 218 ARCHITECTURAL COATINGS

Adopted 6-19-79

(Amended 2-01-83, 5-20-85, 4-01-86, 2-09-95, 8-14-97, 12-13-01)

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APPENDIX A - AVERAGING PROVISION

100 GENERAL

101 PURPOSE: To limit the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the District.

102 APPLICABILITY: Except as provided in Section 104, this rule is applicable to any person who supplies, sells, offers for sale, or manufacturers any architectural coating for use for all of Placer County, as well as any person who applies or solicits the application of any architectural coating within Placer County.

103 SEVERABILITY: If a court of competent jurisdiction issues an order that any provision of this rule is invalid, it is the intent of the Board of Directors of the District that other provisions of this rule remain in full force and affect, to the extent allowed by law.

104 EXEMPTIONS: This rule does not apply to:

104.1 Any architectural coating that is sold or manufactured for use outside of the District or for shipment to other manufacturers for reformulation or repackaging;

104.2 Any aerosol coating product; or

104.3 Any architectural coating that is sold in a container with a volume of one liter (1.057 quart) or less.

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Shop Coating Operations: Coating operations conducted in a business shop environment and which are subject to either Rule 236, Wood Products Coating Operations or Rule 238, Factory Coating of Flat Wood Paneling, are exempt from all provisions of this rule.

200 DEFINITIONS

- 201 ADHESIVE:** Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.
- 202 AEROSOL COATING PRODUCT:** A pressurized coating product containing pigments or resins that dispense product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marketing applications.
- 203 ANTENNA COATING:** A coating labeled and formulated exclusively for application to equipment and associated structural appurtenances that are used to receive or transmit electromagnetic signals.
- 204 ANTIFOULING COATING:** A coating labeled and formulated for application to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms. To qualify as an antifouling coating, the coating must be registered with both the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. Section 136, *et seq.*) and with the California Department of Pesticide Regulation.
- 205 APPURTENANCES:** Any accessory to a stationary structure coated at the site of installation, whether installed or detached, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lampposts; partitions; pipes and piping systems; rain-gutters and down-spouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.
- 206 ARCHITECTURAL COATING:** A coating to be applied to stationary structures and their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles, and adhesives are not considered architectural coatings for the purpose of this rule.
- 207 BITUMENS:** Black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits or as residues from

the distillation of crude petroleum or coal.

- 208 BITUMINOUS ROOF COATING:** A coating which incorporates bitumens that is labeled and formulated exclusively for roofing.
- 209 BITUMINOUS ROOF PRIMER:** A primer which incorporates bitumens that is labeled and formulated exclusively for roofing.
- 210 BOND BREAKERS:** A coating labeled and formulated for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.
- 211 CLEAR BRUSHING LACQUERS:** Clear wood finishes, excluding clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid, protective film, which are intended exclusively for application by brush, and which are labeled as specified in Section 401.5.
- 212 CLEAR WOOD COATINGS:** Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.
- 213 COATING:** A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.
- 214 COLORANT:** A concentrated pigment dispersion in water, solvent, and/or binder that is added to an architectural coating after packaging in sale units to produce the desired color.
- 215 CONCRETE CURING COMPOUND:** A coating labeled and formulated for application to freshly poured concrete to retard the evaporation of water.
- 216 DRY FOG COATING:** A coating labeled and formulated only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.
- 217 EXEMPT COMPOUND:** For the purposes of this rule, “exempt compound” has the same meaning as in Rule 102, Definitions, except that following listed compounds are additional exempt compounds. Exempt compounds content of a coating shall be determined by South Coast Air Quality Management District Method 303-91 (Revised August 1996), incorporated by reference in Section 502.4.10.
- 217.1 perchloroethylene (tetrachloroethylene)
- 217.2 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)

217.3	1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)
217.4	1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee)
217.5	difluoromethane (HFC-32)
217.6	ethylfluoride (HFC-161)
217.7	1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
217.8	1,1,2,2,3-pentafluoropropane (HFC-245ca)
217.9	1,1,2,3,3-pentafluoropropane (HFC-245ea)
217.10	1,1,1,2,3-pentafluoropropane (HFC-245eb)
217.11	1,1,1,3,3-pentafluoropropane (HFC-245fa)
217.12	1,1,1,2,3,3-hexafluoropropane (HFC-236ea)
217.13	1,1,1,3,3-pentafluorobutane (HFC-365mfc)
217.14	chlorofluoromethane (HCFC-31)
217.15	1 chloro-1-fluoroethane (HCFC-151a)
217.16	1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
217.17	1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C ₄ F ₉ OCH ₃)
217.18	2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₃) ₂ CFCF ₂ OCH ₃)
217.19	1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C ₄ F ₉ OC ₂ H ₅)
217.20	2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane ((CF ₃) ₂ CFCF ₂ OC ₂ H ₅)
217.21	methyl acetate

- 218 FAUX FINISHING COATING:** A coating labeled and formulated as a stain or glaze to create artistic effects including, but not limited to, dirt, old age, smoke damage, and simulated marble and wood grain.
- 219 FIRE-RESISTIVE COATING:** An opaque coating labeled and formulated to protect the structural integrity by increasing the fire endurance of interior or exterior steel and other structural materials, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing assemblies of structural materials into compliance with federal, state, and local building code requirements. The fire-resistive coating and the testing agency must be approved by building code officials. The fire-resistive coating shall be tested in accordance with ASTM Designation E 119-98, incorporated by reference in Section 502.4.2.
- 220 FIRE-RETARDANT COATING:** A coating labeled and formulated to retard ignition and flame spread, that has been fire tested and rated by a testing agency approved by building code officials for use in bringing building and construction materials into compliance with federal, state, and local building code requirements. The fire-retardant coating and the testing agency must be approved by building code officials. The fire-retardant coating shall be tested in accordance with ASTM Designation E 84-99, incorporated by reference in Section 502.4.1.
- 221 FLAT COATING:** A coating that is not defined under any other definition in this rule and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree

meter according to ASTM Designation D 523-89 (1999), incorporated by reference in Section 502.4.3.

- 222 FLOOR COATING:** An opaque coating that is labeled and formulated for application to flooring, including, but not limited to, decks, porches, steps, and other horizontal surfaces which may be subject to foot traffic.
- 223 FLOW COATING:** A coating labeled and formulated exclusively for use by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.
- 224 FORM-RELEASE COMPOUND:** A coating labeled and formulated for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some other material other than concrete.
- 225 GRAPHIC ARTS COATING OR SIGN PAINT:** A coating labeled and formulated for hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 226 HIGH-TEMPERATURE COATING:** A high performance coating labeled and formulated for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 227 INDUSTRIAL MAINTENANCE COATING:** A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated for application to substrates exposed to one or more of the following extreme environmental conditions listed in Sections 227.1 through 227.5, and labeled as specified in Section 401.4:
- 227.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
 - 227.2 Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;
 - 227.3 Repeated exposure to temperatures above 121°C (250°F);
 - 227.4 Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or
 - 227.5 Exterior exposure of metal structures and structural components.

228 LACQUER: A clear or opaque wood coating, including clear lacquer

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sanding sealers, formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film.

- 229 LOW-SOLIDS COATING:** A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material.
- 230 MAGNESITE CEMENT COATING:** A coatings labeled and formulated for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.
- 231 MASTIC TEXTURE COATING:** A coatings labeled and formulated to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.
- 232 METALLIC PIGMENTED COATING:** A coating containing at least 48 grams of elemental metallic pigment per liter of coating as applied (0.4 pounds per gallon), when tested in accordance with South Coast Air Quality Management District Method 318-95, incorporated by reference in Section 502.4.4.
- 233 MULTI-COLOR COATING:** A coating that is packaged in a single container and that exhibits more than one color when applied in a single coat.
- 234 NONFLAT COATING:** A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter and 5 or greater on a 60-degree meter according to ASTM Designation D 523-89 (1999), incorporated by reference in Section 502.4.3.
- 235 NONFLAT - HIGH GLOSS COATING:** A nonflat coating that registers a gloss of 70 or above on a 60 degree meter according to ASTM Designation D 523-89 (1999), incorporated by reference in Section 502.4.3.
- 236 NONINDUSTRIAL USE:** Nonindustrial use means any use of architectural coatings except in the construction or maintenance of any of the following: facilities used in the manufacturing of goods and commodities; transportation infrastructure, including highways, bridges, airports and railroads; facilities used in mining activities, including petroleum extraction; and utilities infrastructure, including power generation and distribution, and water treatment and distribution systems.
- 237 POST-CONSUMER COATING:** A finished coating that would have been disposed of in a landfill, having completed its usefulness to a consumer, and does not include manufacturing wastes.
- 238 PRE-TREATMENT WASH PRIMER:** A primer that contains a minimum of

0.5 percent by acid, by weight, when tested in accordance with ASTM Designation D 1613-96, incorporated by reference in Section 502.4.5, that is labeled and formulated for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.

239 PRIMER: A coating labeled and formulated for application to a substrate to provide a firm bond between the substrate and subsequent coats.

240 QUICK-DRY ENAMEL: A nonflat coating that is labeled as specified in Section 401.8 and that is formulated to have the following characteristics:

240.1 Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);

240.2 When tested in accordance with ASTM Designation D-1640-95, incorporated by reference in Section 502.4.6., sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and

240.3 Has a dried film gloss of 70 or above on a 60 degree meter.

241 QUICK DRY PRIMER, SEALER AND UNDERCOATER: A primer, sealer or undercoater that is dry to the touch in 30 minutes and can be recoated in 2 hours when tested in accordance with ASTM Designation 1640-95, incorporated by reference in Section 502.4.6.

242 RECYCLED COATING: An architectural coating formulated such that not less than 50 percent of the total weight consists of secondary and post-consumer coating, with not less than 10 percent of the total weight consisting of post-consumer coating.

243 RESIDENTIAL: Areas where people reside or lodge, including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.

244 ROOF COATING: A non-bituminous coating labeled and formulated exclusively for application to roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and ultraviolet radiation. Metallic pigmented roof coatings which qualify as Metallic Pigmented Coating shall not be considered to be in this category, but shall be considered to be in the Metallic Pigmented Coating category.

245 RUST PREVENTATIVE COATING: A coating formulated for nonindustrial use to prevent the corrosion of metal surfaces and labeled as specified in

Section 401.6.

- 246 SANDING SEALER:** A clear or semi-transparent wood coating labeled and formulated for application to bare wood to seal the wood and to provide a coat that can be abraded to create a smooth surface for subsequent applications of coatings. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.
- 247 SEALER:** A coating labeled and formulated for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.
- 248 SECONDARY COATING (REWORK):** A fragment of a finished coating or a finished coating from a manufacturing process that has converted resources into a commodity of real economic value, but does not include excess virgin resources of the manufacturing process.
- 249 SHELLAC:** A clear or opaque coating formulated solely with the resinous secretions of the lac beetle (*Laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.
- 250 SHOP APPLICATION:** Application of a coating to a product or a component of a product in or on the premises of a factory or a shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 251 SOLICIT:** To require for use or to specify, by written or oral contract.
- 252 SPECIALTY PRIMER, SEALER AND UNDERCOATER:** A coating labeled as specified in Section 401.7 and that is formulated for application to a substrate to seal fire, smoke or water damage; to condition excessively chalky surfaces, or to block stains. An excessively chalky surface is one that is defined as having a chalk rating of four or less as determined by ASTM Designation D 4214-98, incorporated by reference in Section 502.4.7.
- 253 STAIN:** A clear, semitransparent, or opaque coating labeled and formulated to change the color of a surface but not conceal the grain pattern or texture.
- 254 SWIMMING POOL COATING:** A coating labeled and formulated to coat the interior of swimming pools and to resist swimming pool chemicals.
- 255 SWIMMING POOL REPAIR AND MAINTENANCE COATING:** A rubber based coating labeled and formulated to be used over existing rubber based

coatings for the repair and maintenance of swimming pools.

- 256 TEMPERATURE-INDICATOR SAFETY COATING:** A coating labeled and formulated as a color-changing indicator coating for the purpose of monitoring the temperature and safety of the substrate, underlying piping, or underlying equipment, and for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 257 TINT BASE:** An architectural coating to which colorant is added after packaging in sale units to produce a desired color.
- 258 TRAFFIC MARKING COATING:** A coating labeled and formulated for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.
- 259 UNDERCOATER:** A coating labeled and formulated to provide a smooth surface for subsequent coats.
- 260 VARNISH:** A clear or semi-transparent wood coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.
- 261 VOLATILE ORGANIC COMPOUND (VOC):** For the purposes of this rule, “volatile organic compound” has the same meaning as in Rule 102, Definitions.
- 262 VOC CONTENT:** The weight of VOC per volume of coating, calculated according to the procedures specified in Section 402.
- 263 WATERPROOFING SEALER:** A coating labeled and formulated for application to a porous substrate for the primary purpose of preventing the penetration of water.
- 264 WATERPROOFING CONCRETE/MASONRY SEALER:** A clear or pigmented film-forming coating that is labeled and formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.
- 265 WOOD PRESERVATIVE:** A coating labeled and formulated to protect exposed wood from decay or insect attack, that is registered with both the U.S. Environmental Protection Agency under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code (U.S.C.) Section 136, *et seq.*) and with the California Department of Pesticide Regulation.)

- 301 VOC CONTENT LIMITS:** Except as provided in Sections 302, 303, 308, and 309, no person shall: (i) manufacture, blend, or repackage for sale within the District; (ii) supply, sell, or offer for sale within the District; or (iii) solicit for application or apply within the District, any architectural coating with a VOC content in excess of the corresponding limit specified in the following table. Limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water, exempt compounds, or colorant added to the tint bases. "Manufacturer's maximum recommendation" means the maximum recommendation for thinning that is indicated on the label or lid of the coating container.

Coating Category	Effective 1997 ¹	Effective 6/15/2002	Effective 1/1/2003	Effective 1/1/2004
Flat Coatings	250		100	
Nonflat Coatings	250		150	
Nonflat - High Gloss		250		
Specialty Coatings:				
Antenna		530		
Antifouling		400		
Bituminous Roof		300		
Bituminous Roof Primers		350		
Bond Breakers	350			
Clear Wood Coatings:				
Clear Brushing Lacquer		680		
Lacquers (including lacquer sanding sealers)	680		550	
Sanding Sealers (other than lacquer sanding sealers)	350			
Varnishes	350			
Concrete Curing Compounds	350			
Dry Fog	400			
Faux Finishing		350		
Fire Resistive		350		
Fire Retardant:				
Clear	650			
Opaque	350			
Floor		250		
Flow		420		
Form-Release Compounds	250			
Graphic Arts (Sign Paints)	500			
High Temperature	420			
Industrial Maintenance	420			250
Low Solids ²		120		
Magnesite Cement	450			

Mastic Texture	300			
Metallic Pigmented	500			
Multi-Color	420		250	
Pre-Treatment Wash Primers	675	420		
Primers, Sealers, and Undercoaters	350		200	
Quick-Dry Enamels	400		250	
Quick-Dry Primers, Sealers, Undercoaters	350		200	
Recycled		250		
Roof	300	250		
Coating Category	Effective	Effective		Effective
	1997¹	6/15/2002	1/1/2003	Effective
				1/1/2004
Rust Preventative		400		
Shellacs:				
Clear	730			
Opaque	550			
Specialty Primers, Sealers and Undercoaters		350		
Stains	350		250	
Swimming Pool Coatings	340			
Swimming Pool Repair and Maintenance		340		
Temperature-Indicator Safety		550		
Traffic Marking	250	150		
Waterproofing Sealers	400		250	
Waterproofing Concrete/ Masonry Sealers		400		
Wood Preservatives	350			

- 1 The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
- 2 Units are grams of VOC per liter (pounds of VOC per gallon) or coating, including water and exempt compounds. Conversion factor: one pound VOC per gallon (U.S.) = 119.95 grams VOC per liter.

302 MOST RESTRICTIVE VOC LIMITS: If anywhere on the container of any architectural coating or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in the table in Section 301, then the most restrictive VOC content limit shall apply. This provision does not apply to the coating categories specified in Section 302.1 through 302.15.

302.1 Lacquer coatings (including lacquer sanding sealers).

302.2 Metallic pigmented coatings.

302.3 Shellacs.

- 302.4 Fire-retardant coatings.
- 302.5 Pretreatment wash primers.
- 302.6 Industrial maintenance coatings.
- 302.7 Low-solids coatings.
- 302.8 Wood preservatives.
- 302.9 High temperature coatings.
- 302.10 Temperature-indicator safety coatings.
- 302.11 Antenna coatings.
- 302.12 Antifouling coatings.
- 302.13 Flow coatings.
- 302.14 Bituminous roof primers.
- 302.15 Specialty primers, sealers, and undercoaters.

303 SELL-THROUGH OF COATINGS:

303.1 Coatings manufactured prior to the June 15, 2002, January 1, 2003 or January 1, 2004 effective date specified for that coating in the table in Section 301 may be sold, supplied, or offered for sale for up to three years after the specified effective date. In addition, a coating manufactured before the effective date specified for that coating in the table in Section 301 may be applied at any time, both before and after the specified effective date, so long as the coating complied with the standards in effect at the time the coating was manufactured. This Section 303 does not apply to any coating that complies with the future effective June 15, 2002, January 1, 2003 or January 1, 2004 limits or that does not display the date or date-code required by Section 401.1.

303.2 A coating included in an approved Averaging Program that does not comply with the specified limit in the table in Section 301 may be sold, supplied, or offered for sale for up to three years after the end of the compliance period specified in the approved Averaging Program. In addition, such a coating may be applied at any time, both during and after the compliance period. This Section 303.2 does not apply to any coating that does not display on the container either the statement: "This product is subject to architectural coatings averaging provisions in California" or a substitute symbol specified by the Executive Officer of the California Air Resources Board. This Section 303.2 shall remain in effect until January 1, 2008.

304 PAINTING PRACTICES: All architectural coating containers used to apply the contents therein to a surface directly from the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but are not limited to, drums, buckets, cans, pails, trays or other application

containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use.

- 305 THINNING:** No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit specified in the table in Section 301.
- 306 RUST PREVENTATIVE COATINGS:** After January 1, 2004, a person shall only apply or solicit the application of a rust preventative coating for non-industrial uses, unless the rust preventative coating complies with the industrial maintenance coating VOC limit specified in the table in Section 301.
- 307 COATINGS NOT LISTED IN SECTION 301:** For any coating that does not meet any of the definitions for the specialty coatings categories listed in the table in Section 301, the VOC content limit shall be determined by classifying the coating as a flat coating or a nonflat coating, based on its gloss, as defined in Section 221, 234 and 235 and the corresponding flat or nonflat VOC limit shall apply.
- 308 LACQUERS:** Notwithstanding the provisions of Sections 301 and 305, a person or facility may add up to 10 percent by volume of VOC to a lacquer to avoid blushing of the finish during days with relative humidity greater than 70 percent and temperature below 65 degrees Fahrenheit, at the time of application, provided that the coating contains acetone and no more than 550 grams of VOC per liter of coating, less water and exempt compounds, prior to the addition of VOC.
- 309 AVERAGING COMPLIANCE OPTION:** On or after January 1, 2003, in lieu of compliance with the specified limits in the table in Section 301 for floor coatings; industrial maintenance coatings; primers, sealers, and undercoaters; quick-dry primers, sealers, and undercoaters; quick-dry enamels; roof coatings; bituminous roof coatings; rust preventative coatings; stains; waterproofing sealers, as well as flats and nonflats (excluding recycled coatings), manufacturers may average designated coatings such that their actual cumulative emissions from the averaged coatings are less than or equal to the cumulative emissions that would have been allowed under those limits over a compliance period not to exceed one year. Such manufacturers must also comply with the averaging provisions contained in Appendix A, as well as maintain and make available for inspection records for at least three years after the end of the compliance period. This Section 309 and Appendix A shall cease to be effective on January 1, 2005, after which averaging will no longer be allowed.

400 ADMINISTRATIVE REQUIREMENTS

401 CONTAINER LABELING REQUIREMENTS: Each manufacturer of any architectural coating subject to this rule shall display the information listed in Sections 401.1 through 401.9 on the coating container (or label) in which the coating is sold or distributed.

401.1 Date Code: The date the coating was manufactured, or a date code representing the date, shall be indicated on the label, lid, or bottom of the container. If the manufacturer uses a date code for any coating, the manufacturer shall file an explanation of each code with the Executive Officer of the California Air Resources Board.

401.2 Thinning Recommendations: A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.

401.3 VOC Content: Each container of any coating subject to this rule shall display either the maximum or the actual VOC content of the coating, as supplied, including the maximum thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating. VOC content displayed shall be calculated using product formulation data, or shall be determined using the test method in Section 502. The equations in Section 402 shall be used to calculate VOC content.

401.4 Industrial Maintenance Coatings: In addition to the information specified in Sections 401.1, 401.2 and 401.3, each manufacturer of any industrial maintenance coating subject to this rule shall display on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in Sections 401.4.1. through 401.4.3.

401.4.1 "For industrial use only."

401.4.2 "For professional use only."

401.4.3 "Not for residential use" or "Not intended for residential use."

401.5 Clear Brushing Lacquers: Effective January 1, 2003, the labels of all clear brushing lacquers shall prominently display the statements "For brush application only," and "This product must not be thinned or sprayed."

401.6 Rust Preventative Coatings: Effective January 1, 2003, the labels of all rust preventative coatings shall prominently display the statement "For Metal Substrates Only."

401.7 Specialty Primers, Sealers, and Undercoaters: Effective January 1, 2003, the labels of all specialty primers, sealers, and undercoaters shall prominently display one or more of the descriptions listed in Sections 401.7.1 through 401.7.5.

401.7.1 For blocking stains.

401.7.2 For fire-damaged substrates.

401.7.3 For smoke-damaged substrates.

401.7.4 For water-damaged substrates.

401.7.5 For excessively chalky substrates.

401.8 Quick-dry Enamels: Effective January 1, 2003, the labels of all quick dry enamels shall prominently display the words "Quick Dry" and the dry hard time.

401.9 Non-flat - High Gloss Coatings: Effective January 1, 2003, the labels of all non-flat - high gloss coatings shall prominently display the words "High Gloss."

402 CALCULATION OF VOC CONTENT: For the purpose of determining compliance with the VOC content limits in the table in Section 301, the VOC content of a coating shall be determined by using the procedures described in Sections 402.1 or 402.2, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured.

402.1 With the exception of low solids coatings, determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Determine the VOC content using the following equation:

$$\text{VOC Content} = (W_s - W_w - W_{ec}) / (V_m - V_w - V_{ec})$$

Where: VOC content= grams of VOC per liter of coating

W_s = weight of all volatiles, in grams

W_w = weight of water, in grams

W_{ec} = weight of exempt compounds, in grams

V_m = volume of coating, in liters

Vw = volume of water, in liters
Vec = volume of exempt compounds, in liters

402.2 For low solids coatings, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Determine the VOC content using the following equation:

$$\text{VOC Contents} = (\text{Ws} - \text{Ww} - \text{Wec}) / (\text{Vm})$$

Where:

VOC contents = the VOC content of a low solids coating in grams of VOC per liter of coating

Ws = weight of all volatiles, in grams

Ww = weight of water, in grams

Wec = weight of exempt compounds, in grams

Vm = volume of coating, in liters

500 MONITORING AND RECORDS

501 REPORTING REQUIREMENTS:

501.1 Clear Brushing Lacquers: Each manufacturer of clear brushing lacquers shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of clear brushing lacquers sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.

501.2 Rust Preventative Coatings: Each manufacturer of rust preventative coatings shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of rust preventative coatings sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate State sales.

501.3 Specialty Primers, Sealers, and Undercoaters: Each manufacturer of specialty primers, sealers, and undercoaters shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of specialty primers, sealers, and undercoaters sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate

State sales.

501.4 Toxic Exempt Compounds: For each architectural coating that contains perchloroethylene or methylene chloride, the manufacturer shall, on or before April 1 of each calendar year beginning in the year 2004, report to the Executive Officer of the California Air Resources Board the following information for products sold in California during the preceding year:

501.4.1 the product brand name and a copy of the product label with legible usage instructions;

501.4.2 the product category listed in the table in Section 301 to which the coating belongs;

501.4.3 the total sales in California during the calendar year to the nearest gallon;

501.4.4 the volume percent, to the nearest 0.10 percent, of perchloroethylene and methylene chloride in the coating.

501.5 Recycled Coating: Manufacturers of recycled coatings must submit a letter to the Executive Officer of the California Air Resources Board certifying their status as a Recycled Paint Manufacturer. The manufacturer shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall include, for all recycled coatings, the total number of gallons distributed in California during the preceding year, and shall describe the method used by the manufacturer to calculate California's distribution.

501.6 Bituminous Coatings: Each manufacturer of bituminous roof coatings or bituminous roof primers shall, on or before April 1 of each calendar year beginning in the year 2004, submit an annual report to the Executive Officer of the California Air Resources Board. The report shall specify the number of gallons of bituminous roof coatings or bituminous roof primers sold in California during the preceding calendar year, and shall describe the method used by the manufacturer to calculate California's sales.

502 TESTING PROCEDURE:

502.1 VOC Content: To determine the physical properties of a coating in order to perform the calculation in Section 402, the reference method for VOC content is U.S. Environmental Protection Agency Method 24, incorporated by reference in Section 502.4.11, except as provided in Sections 502.2 and 502.3. An alternative method to determine the VOC content of coatings is South Coast Air Quality Management District Method 304-91 (Revised February 1996), incorporated by

reference in Section 502.4.12.

The exempt compounds content shall be determined by South Coast Air Quality Management District Method 303-91 (Revised August 1996), incorporated by reference in Section 502.4.10. To determine the VOC content of a coating, the manufacturer may use U.S. Environmental Protection Agency Method 24, or an alternative method as provided in Section 502.2, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g. quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except when an alternative method is approved as specified in Section 502.2. The District Air Pollution Control Officer may require the manufacturer to conduct a Method 24 analysis.

502.2 Alternative Test Method: Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with Section 502.1, after review and approved in writing by the staffs of the District, the California Air Resources Board, and the U.S. Environmental Protection Agency, may also be used.

502.3 Methacrylate Traffic Marking Coatings: Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to a modification of U.S. Environmental Protection Agency Method 24 (40 CFR 59, subpart D, Appendix A), incorporated by reference in Section 502.4.13. This method has not been approved for methacrylate multicomponent coatings used for purposes other than as traffic marking coatings or for other classes of multicomponent coatings.

502.4 Test Methods: The following test methods are incorporated by reference herein, and shall be used to test coatings subject to provisions of this rule:

- 502.4.1 Flame Spread Index: The flame spread index of a fire-retardant coating shall be determined by ASTM Designation E 84-99, "Standard Test Method for Surface Burning Characteristics of Building Materials," (see Section 220, Fire-Retardant Coating).
- 502.4.2 Fire Resistance Rating: The fire resistance rating of a fire-resistive coating shall be determined by ASTM Designation E 119-98, "Standard Test Methods for Fire Tests of Building Construction Materials, " (see Section 219, Fire-Resistive Coating).
- 502.4.3 Gloss Determination: The gloss of a coating shall be determined by ASTM Designation D 523-89 (1999), "Standard Test Method for Specular Gloss," (see Section 221, 234, 235 and 240, Flat Coating, Nonflat Coating, Nonflat High Gloss Coating, and Quick-Dry Enamels).
- 502.4.4 Metal Content of Coatings: The metallic content of a coating shall be determined by South Coast Air Quality Management District Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray Diffraction," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples," (see Section 232, Metallic Pigmented Coating).
- 502.4.5 Acid Content of Coatings: The acid content of a coating shall be determined by ASTM Designation D 1613-96, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products," (see Section 238, Pre-Treatment Wash Primers).
- 502.4.6 Drying Times: The set-to-touch, dry-hard, dry-to-touch, and dry-to-recoat times of a coating shall be determined by ASTM Designation D 1640-95, "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, " (see Section 240 and 241, Quick-Dry Enamel and Quick-Dry Primer, Sealer, and Undercoater). The tack-free time of a quick-dry enamel coating shall be determined by the Mechanical Test Method of ASTM Designation D 1640-95.
- 502.4.7 Surface Chalkiness: The chalkiness of a surface shall be determined using ASTM Designation D 4214-98, "Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films," (see Section 252, Specialty Primer, Sealer, and Undercoater).

- 502.4.8 Exempt Compounds - Siloxanes: Exempt compounds that are cyclic, branched, or linear completely methylated siloxanes, shall be analyzed as exempt compounds for compliance with Section 502 by Bay Area Air Quality Management District Method 43, "Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials," Bay Area Air Quality Management District Manual of Procedures, Volume III, adopted 11/6/96, (see Section 261, Volatile Organic Compounds and Section 502.1).
- 502.4.9 Exempt Compounds - Parachlorobenzotrifluoride (PCBTF): The exempt compound parachlorobenzotrifluoride, shall be analyzed as an exempt compound for compliance with Section 502 by Bay Area Air Quality Management District Method 41, "Determination of Volatile Organic Compounds in Solvent-Based Coatings and Related Materials Containing Parachlorobenzotrifluoride, Bay Area Air Quality Management District Manual of Procedures, Volume III, adopted 12/20/95, (see Section 261, Volatile Organic Compound and Section 502.1).
- 502.4.10 Exempt Compounds: The content of compounds exempt under U.S. Environmental Protection Agency Method 24 shall be analyzed by South Coast Air Quality Management District Method 303-91 (Revised 1996), "Determination of Exempt compounds," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples, (see Section 261, Volatile Organic Compound and Section 502.1.
- 502.4.11 VOC Content of Coatings: The VOC content of a coating shall be determined by U.S. Environmental Protection Agency Method 24 as it exists in appendix A of 40 Code of Federal Regulations (CFR) part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings," (see Section 502.1)
- 502.4.12 Alternative VOC Content of Coatings: The VOC content of coatings may be analyzed either by U.S. Environmental Protection Agency Method 24 or South Coast Air Quality Management District Method 304-91 (Revised 1996), "Determination of Volatile Organic Compounds (VOC) in Various Materials," South Coast Air Quality Management District "Laboratory Methods of Analysis for Enforcement Samples," (see Section 502.1)

502.4.13 Methacrylate Traffic Marking Coatings: The VOC content of methacrylate multicomponent coatings used as traffic marking coatings shall be analyzed by the procedures in 40 CFR part 59, subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings, " (September 11, 1998), (see Section 502.1).

Appendix A AVERAGING PROVISION

A. AVERAGING PROVISION

A.1 The manufacturer shall demonstrate that actual emissions from the coatings being averaged are less than or equal to the allowable emissions, for the specified compliance period using the following equation:

$$\sum_{i=1}^n 3GiMi \leq \sum_{i=1}^n 3GiViLi$$

Where:

$$\sum_{i=1}^n 3GiMi = \text{Actual Emissions}$$

$$\sum_{i=1}^n 3GiViLi = \text{Allowable Emissions}$$

Gi = Total Gallons of Product (i) subject to Averaging;

Mi = Material VOC Content of Product (i), in pounds per gallon;
 $Mi = \frac{Ws - Ww - Wec}{Vm}$

Vi = Percent by Volume Solids and VOC in Product (i);
 $Vi = \frac{Vm - Vw - Vec}{Vm}$

Ws = weight of all volatiles, in pounds

Ww = weight of water, in pounds

Wec = weight of exempt compounds, in pounds

Vm = volume of water, in gallons

Vw = volume of water, in gallons

Vec = volume of exempt compounds, in gallons

For Non-Zero VOC Coatings:

$$Vi = \frac{\text{Material VOC (also known as VOC Actual)}}{\text{Coating VOC (also known as VOC Regulatory)}}$$

$$\text{Where: Coating VOC} = \frac{Ws - Ww - Wec}{Vm - Vw - Vec}$$

For Zero VOC Coatings:

V_i = Percent Solids by Volume

L_i = Regulatory VOC Content Limit for Product (I), in pounds per gallon (as listed in the table in Section 301)

The averaging is limited to coatings that are designated by the manufacturer. Any coating not designated in the averaging Program shall comply with the VOC limit in the table in Section 301. The manufacturer shall not include any quantity of coatings that it knows or should have known will not be used in California, if statewide coatings data are used. If district-specific coatings data are used, the manufacturer shall not include any quantity of coatings that it knows or should have known will not be used in the District.

A.1.1 In addition to the requirements specified in Section A.1, manufacturers shall not include in an Averaging Program any coating with a VOC content in excess of the following maximum VOC contents, for the applicable categories.

Averaging Categories and VOC Ceiling (Maximum VOC Allowed)

Category Content	VOC Limit (Li) ¹ (grams/liter)	Maximum VOC (grams/liter)
Flat Coating	100	250
Nonflat Coating	150	250
Floor Coatings	250	400
Industrial Maintenance Coatings	250	420
Primers, Sealers, and Undercoaters	200	350
Quick-Dry Primers, Sealers, and Undercoaters	200	450
Quick-Dry Enamels	250	400
Roof Coatings	250	250
Bituminous Roof Coatings	300	300
Rust Preventative Coatings	400	400
Stains	250	350
Waterproofing Sealers	250	400

¹ As listed in Table 1. Used when determining allowable emissions in subsection A.1.

A.2 Averaging Program (Program)

At least six months prior to the start of the compliance period, manufacturers shall submit an Averaging Program to the Executive Officer of the Air Resources Board. As used in this Appendix A, "Executive Officer" means the Executive Officer of the Air Resources Board. Averaging may not be implemented until the Program is approved in writing by the Executive Officer.

Within 45 days of submittal of a complete Program, the Executive Officer shall either approve or disapprove the Program. The Program applicant and the Executive Officer may agree to an extension of time for the Executive Officer to take action on the Program.

A.3 General Requirements

The Program shall include all necessary information for the Executive Officer to make a determination as to whether the manufacturer may comply with the averaging requirements over the specified compliance period in an enforceable manner. Such information shall include, but is not limited to, the following:

A.3.1 An identification of the contact persons, telephone numbers, and name of the manufacturer who is submitting the Program.

A.3.2 An identification of each coating that has been selected by the manufacturer for inclusion in this program that exceeds the applicable VOC limit in the table in Section 301, its VOC content specified in units of both VOC actual and VOC regulatory, and the designation of the coating category.

A.3.3 A detailed demonstration showing that the projected actual emissions will not exceed the allowable emissions for a single compliance period that the Program will be in effect. In addition, the demonstration shall include VOC content information for each coating that is below the compliance limit in the table in Section 301. The demonstration shall use the equation specified in Section A.1 of this Appendix for projecting the actual emissions and allowable emissions during each compliance period. The demonstration shall also include all VOC content levels and projected volume sold within the State for each coating listed in the Program during each compliance period. The requested data can be summarized in a matrix form.

A.3.4 A specification of the compliance period(s) and applicable reporting dates. The length of the compliance period shall not be more than one year or less than six months.

A.3.5 An identification and description of all records to be made available to the Executive Officer upon request, if different than those identified under Section A.3.6.

A.3.6 An identification and description of specific records to be used in calculating emissions for the Program and subsequent reporting, and a detailed explanation as to how those records will be used by the manufacturer to verify compliance with the averaging requirements.

A.3.7 A statement, signed by a responsible party for the manufacturer, that all information submitted is true and correct, and that records will be made available to the Executive Officer upon request.

A.4 Reporting Requirements

A.4.1 For every single compliance period, the manufacturer shall submit a mid-term report listing all coatings subject to averaging during the first half of the compliance period, detailed analysis of the actual and allowable emissions at the end of the mid-term, and an explanation as to how the manufacturer intends to achieve compliance by the end of the compliance period. The report shall be signed by the responsible party for the manufacturer, attesting that all information submitted is true and correct. The mid-term report shall be submitted within 45 days after the midway date of the compliance period. A manufacturer may request, in writing, an extension of up to 15 days for submittal of the mid-term report.

A.4.2 Within 60 days after the end of the compliance period or upon termination of the Program, whichever is sooner, the manufacturer shall submit to the Executive Officer a report listing all coatings subject to averaging during the compliance period, providing a detailed demonstration of the balance between the actual and allowable emissions for the compliance period, any identification and description of specific records used by the manufacturer to verify compliance with the averaging requirement, and any other information requested by the Executive Officer to determine whether the manufacturer complied with the averaging requirements over the specified compliance period. The report shall be signed by the responsible party for the manufacturer, attesting that all information submitted is true and correct, and that records will be made available to the Executive Officer upon request. A manufacturer may request, in writing, an extension of up to 30 days for submittal of the final report.

A.5 Renewal of a Program

A Program automatically expires at the end of the compliance period. The manufacturer may request a renewal of the Program by submitting a renewal request that shall include an updated Program, meeting all applicable Program requirements. The renewal request will be considered conditionally approved until the Executive Officer makes a final decision to deny or approve the renewal request based on a determination of whether the manufacturer is likely to comply with the averaging requirements. The Executive Officer shall base such determination on all available information, including but not limited to, the mid-term and the final reports of the preceding compliance period. The Executive Officer shall make a decision to deny or approve a renewal request no later than 45 days from the date of the final report submittal, unless the manufacturer and the Executive Officer agree to an extension of time for the Executive Officer to take action on the renewal request.

A.6 Modification of a Program

A manufacturer may request a modification of the Program at any time prior to the end of the compliance period. The Executive Officer shall take action to approve or disapprove the modification request no longer than 45 days from the date of its submittal. No modification of the compliance period shall be allowed. A Program need not be modified to specify additional coatings to be averaged that are below the applicable VOC limits.

A.7 Termination of a Program

A.7.1 A manufacturer may terminate its Program at any time by filing a written notification to the Executive Officer. The filing date shall be considered the effective date of the termination, and all other provisions of this rule including the VOC limits shall immediately thereafter apply. The manufacturer shall also submit a final report 60 days after the termination date. Any exceedance of the actual emissions over the allowable emissions over the period that the Program was in effect shall constitute a separate violation for each day of the entire compliance period.

A.7.2 The Executive Officer may terminate a Program if any of the following circumstances occur:

A.7.2.1 The manufacturer violates the requirements of the approved Program, and at the end of the compliance period, the actual emissions exceed the allowable emissions

- A.7.2.2** The manufacturer demonstrates a recurring pattern of violations and has consistently failed to take the necessary steps to correct those violations.

A.8 Change in VOC Limits

If the VOC limits of a coating listed in the Program are amended such that its effective date is less than one year from the date of adoption, the affected manufacturer may base its averaging on the prior limits of that coating until the end of the compliance period immediately following the date of adoption.

A.9 Labeling

Each container of any coating that is included in averaging program, and that exceeds the applicable VOC limit in the table in Section 301 shall display the following statement: "This product is subject to architectural coatings averaging provisions in California." A symbol specified by the Executive Officer may be used as a substitute.

A.10 Violations

The exceedance of the allowable emissions for any compliance period shall constitute a separate violation for each day of the compliance period. However, any violation of the requirements of the Averaging Provision of this rule, which the violator can demonstrate, to the Executive Officer, did not cause or allow the emission of an air contaminant and was not the result of negligent or knowing activity may be considered a minor violation.

A.11 Sunset of Averaging Provision

The averaging provision set forth in Appendix A shall cease to be effective on January 1, 2005, after which averaging will no longer be allowed.

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RULE 219 ORGANIC SOLVENTS

Adopted 06-19-79
(Amended 05-20-85)

- A. A person shall not discharge into the atmosphere more than 15 pounds of organic materials in any one day, nor more than 3 pounds in any one hour, from any article, machine, equipment or other contrivance, in which any organic solvent or any material containing solvent comes into contact with flame or is baked, heatcured or heat polymerized, in the presence of oxygen, unless said discharge has been reduced by at least 85 percent. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section, shall be collectively subject to compliance with this section.
- B. A person shall not discharge into the atmosphere more than 40 pounds of organic materials in any one day, nor more than 8 pounds in any one hour, from any article, machine, equipment or other contrivance used under conditions other than described in Section (A) for employing, or applying, any photochemically reactive solvent, as defined in Section (H) or material containing such photochemically reactive solvent, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emissions resulting from baking, heat-curing or heat-polymerizing as described in Section (A) shall be excluded from determination or compliance with this section. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip, or wire which emit organic materials using operations described in this section shall be collectively subject to compliance with this section.
- C. A person shall not discharge into the atmosphere more than 3000 pounds of organic materials in any one day or more than 450 pounds in any one hour, from any article, machine, equipment or other contrivance in which any non-photochemically reactive organic solvent or any material containing such solvent is employed or applied, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emissions resulting from baking, heat-curing, or heat-polymerizing as described in Section (A) shall be excluded from determination of compliance with this section. Those portions of any series of articles, machines, equipment, or other contrivance designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.
- D. A person shall not, during any one day, dispose of a total of more than 1.5 gallons of any photochemically reactive solvent as defined in Section (H), or of any material containing more than 1.5 gallons of any such photochemically reactive solvent by means which will permit the evaporation of such solvent into the atmosphere.
- E. Emissions of organic materials into the atmosphere from the cleanup with photochemically reactive solvent, as defined in Section (H), of any article, machine, equipment or other contrivance described in Sections (A), (B), or (C), shall be included with the other emissions of organic materials from that article, machine, equipment or other contrivance for determining compliance with this rule.

- F. Emissions of organic materials into the atmosphere required to be controlled by Sections (A), (B) or (C) shall be reduced by:
1. Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon monoxide, or
 2. Adsorption, or
 3. Processing in a manner determined by the Air Pollution Control Officer to be not less effective than (1) or (2) above.
- G. For the purposes of this rule, organic solvents include diluents and thinners and are defined as organic materials which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents, except that such materials which exhibit a boiling point higher than 221 degrees F at 0.5 millimeters mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 221 degrees F.
- H. For the purposes of this rule, a photochemically reactive solvent is any solvent with an aggregate of more than 20 percent of its total volume composed of chemical compounds classified below or which exceed any of the following individual percentage composition limitations, referred to the total volume of solvent:
1. A combination of hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones having an olefinic or cyclo-olefinic type of unsaturation: **5 percent**.
 2. A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: **8 percent**.
 3. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: **20 percent**.
- Whenever any organic solvent or any constituents of any organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that group having the least allowable percent of the total volume of solvents.
- I. For the purposes of this rule, organic materials are defined as chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates and ammonium carbonate.
- J. A person incinerating, adsorbing, or otherwise processing organic materials pursuant to this rule shall provide, properly install, and maintain in calibration, in good working order and in operation, devices specified in the Authority to Construct or the Permit to Operate or as specified by the Air Pollution Control Officer, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree of effectiveness of air pollution control.
- K. Any person using organic solvents or any materials containing organic solvents shall supply the Air Pollution Control Officer, upon request, and in the manner and form prescribed by him, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.

L. The provisions of this rule shall not apply to:

1. The manufacturer of organic solvents, or the transport or storage of organic solvents or materials containing organic solvents.
2. The spraying or other employment of insecticides, pesticides or herbicides.
3. The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchloroethylene.
4. The use of any material, in any article, machine, equipment or other contrivance described in Sections (A), (B), (C) or (E), if:
 - a. The volatile content of such material consists only of water and organic solvents, and
 - b. The organic solvents comprise not more than 20 percent by volume of said volatile content, and
 - c. The volatile content is not photochemically reactive as defined in Section (H), and
 - d. The organic solvent of any material containing organic solvent does not come into contact with flame.
5. The use of any material, in any article, machine, equipment or other contrivance described in Sections (A), (B), (C) or (E), if:
 - a. The organic solvent content of such material does not exceed 20 percent by volume of said materials, and
 - b. The volatile content is not photochemically reactive as defined in Section (H), and
 - c. The organic solvent or any material containing organic solvent does not come into contact with flame.

M. In addition to other restrictions contained in these rules and regulations:

1. A person shall not use, in any dry cleaning operation, organic solvents containing 4 percent or more by volume of any photochemically reactive organic material as defined in Section (H) unless the emissions of the discharged organics are reduced by 90 percent or more by use of the methods described in Section (F).
2. A person shall not discharge into the atmosphere any organic materials from surface degreasing operations unless they are either reduced by at least 85 percent, or unless such materials are not photochemically reactive as defined in Section (H).
3. A person shall not manufacture, for use within Placer County, nor use any photochemically reactive solvent as defined in Section (H) for the purpose of thinning or diluting any metal surface coating.

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RULE 220 ABRASIVE BLASTING

Adopted 05-24-77
(Amended 06-19-79)

By reference Title 17 Subchapter 6 of the California Administrative Code shall apply.

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RULE 221 COMPLIANCE TESTS

Adopted 06-19-79

Except as otherwise stated in these rules and regulations, performance tests undertaken to determine compliance of sources with Regulation II shall comply with the provisions of CFR 40, Part 60, Appendix A except that Method 5 shall be modified to include the impinger train catch.

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RULE 222 REDUCTION OF ANIMAL MATTER

Adopted 06-19-79

A person shall not operator or use any article, machine, equipment or other contrivance for the reduction of animal matter unless all gases, vapors and gas-entrained effluents from such an article, machine equipment or other contrivance are:

- A. Incinerated at temperatures of not less than 1,200 degrees Fahrenheit for a period of not less than 0.3 seconds, or
- B. Processed in a manner determined by the Air Pollution Control Officer to be as effective for the purpose of emission control than Subsection (A) above.

A person incinerating or processing gases, vapors, or gas-entrained effluents pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation, devices as specified in the Authority to Construct or Permit to Operate or as specified by the Air Pollution Control Officer, for indicating temperature, pressure or other operating conditions.

For the purposes of this rule, "reduction" is defined as any heated process, including rendering, cooking, drying, dehydration, digesting, evaporating and protein concentrating.

The provisions of this rule shall not apply to any article, machine, equipment or other contrivance used exclusively for the processing of food for human consumption.

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RULE 223 METAL CONTAINER COATING

Adopted 04-21-81
(Amended 09-25-90, 10-19-93, 10-06-94)

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100 GENERAL

- 101 APPLICABILITY:** The provisions of this rule shall apply to all metal container coating operations that use volatile organic compounds.

200 DEFINITIONS

- 201 COATING APPLICATOR:** An apparatus used to apply a surface coating.
- 202 COATING LINE:** An operation or process for applying, drying, baking, and/or curing surface coatings, together with associated equipment including a coating applicator, flash-off area and oven.
- 203 CAN COATING:** Any coating containing organic materials and applied or intended for application by spray, roller, or other means onto the interior and/or exterior of metal cans, drums, pails, or lids.
- 204 CLOSURE:** Any component that is used to close or seal a container
- 205 COIL:** Any flat metal sheet or strip that is rolled or wound in concentric rings.
- 206 COIL COATING:** Any coating applied to metal sheets or strips which are then rolled into coils for further industrial or commercial use.
- 207 CONTAINER:** Any three-piece can, two-piece can, drum, pail or tube.
- 208 DRUM:** Any cylindrical metal shipping container larger than 12 gallons capacity but not larger than 110 gallons capacity.
- 209 ENCLOSED GUN WASHER:** A washing system that has an enclosed solvent container, and uses non-atomized solvent flow to flush the spray equipment and collects and returns discharged solvent to the enclosed container.
- 210 END SEALING COMPOUND:** A compound which is coated onto can ends and which functions as a gasket when the end is assembled onto the can.
- 211 EXEMPT COMPOUNDS:** For the purposes of this rule, exempt compounds are the following:
- 211.1 Methane
 - 211.2 Carbon dioxide
 - 211.3 Carbon monoxide
 - 211.4 Carbonic acid
 - 211.5 Metallic carbides or carbonates
 - 211.6 Ammonium carbonate
 - 211.7 1,1,1-trichloroethane
 - 211.8 Methylene chloride
 - 211.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
 - 211.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
 - 211.11 Trichlorofluoromethane (CFC-11)
 - 211.12 Dichlorodifluoromethane (CFC-12)
 - 211.13 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113)
 - 211.14 1-chloro-1,1-difluoro-2-chloro-2,2-difluoroethane (CFC-114)
 - 211.15 Chloropentafluoroethane (CFC-115)
 - 211.16 Pentafluoroethane (HFC-125)

- 211.17 1,1,2,2-tetrafluoroethane (HFC-134)
- 211.18 Tetrafluoroethane (HFC-134a)
- 211.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 211.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 211.21 1,1,1-trifluoroethane (HFC-143a)
- 211.22 Chlorodifluoromethane (HCFC-22)
- 211.23 Trifluoromethane (HFC-23)
- 211.24 Difluoroethane (HFC-152a)
- 211.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

- 212 EXTERIOR BASE COATING:** A coating applied to the exterior of a container body to provide protection to the metal or to provide background for any lithographic or printing operation.
- 213 EXTERIOR BODY SPRAY:** A coating sprayed on the exterior of a container body to provide a decorative or protective finish.
- 214 FOOD/BEVERAGE CAN:** A metal container in which food or beverages intended for human consumption are packaged.
- 215 GRAMS OF VOC PER LITER OF COATING (AS APPLIED EXCLUDING WATER AND EXCLUDING EXEMPT COMPOUNDS):** The weight of VOC per combined volume of VOC and coating solids. This can be calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / (V_m - V_w - V_{\text{ec}})$$

where:

- G_{voc} = Grams VOC per liter of coating less water and exempt compounds
- W_v = Weight of all volatile compounds in grams
- W_w = Weight of water in grams
- W_{ec} = Weight of exempt compounds in grams
- V_m = Volume of coating material in liters
- V_w = Volume of water in liters
- V_{ec} = Volume of exempt compounds in liters

- 216 GRAMS OF VOC PER LITER OF MATERIAL:** The weight of VOC per combined volume of material. This can be calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / V_m$$

where:

G_{voc}	=	Grams VOC per liter of material
W_v	=	Weight of all volatile compounds in grams
W_w	=	Weight of water in grams
W_{ec}	=	Weight of exempt compounds in grams
V_m	=	Volume of material in liters

- 217 HIGH-VOLUME LOW-PRESSURE (HVLP):** A coating application system that is operated on a delivered air pressure between 0.1 and 10 psig air pressure.
- 218 INK:** Any coating used in any operation that imparts color, design, alphabet, or numerals on an exterior surface of a metal container or closure.
- 219 INTERIOR BASE COATING:** A coating applied to the interior of a container body to provide a protective lining between the product and the can.
- 220 INTERIOR BODY SPRAY:** A coating sprayed on the interior of the container body to provide a protective film between the product and the can.
- 221 LUBRICANT APPLICATOR:** An apparatus used to apply a surface lubricant to beverage container lid tabs.
- 222 NECKER LUBRICANT:** Any fluid or solid applied to a can forming tool to reduce friction while reducing the can diameter to form a neck.
- 223 OVERVARNISH:** A coating applied directly over a design coating to reduce the coefficient of friction, to provide gloss and to protect the finish against abrasion and corrosion.
- 224 PAIL:** Any metal container from 1 gallon to 12 gallon capacity and constructed of 29 gauge or heavier material.
- 225 RECONDITIONED DRUMS, PAILS, OR LIDS:** Any drum, pail, or lid which is reused, recycled or remanufactured.
- 226 TAB PRESS LUBRICATION:** The process that uses a lubricated mechanical press to create beverage container lid tabs from flat aluminum metal stock.
- 227 THREE-PIECE CAN SIDE-SEAM SPRAY:** A coating sprayed on the interior and/or exterior of a welded, cemented or soldered seam to protect the exposed metal.
- 228 TWO-PIECE CAN EXTERIOR END COATING:** A coating applied to the exterior end of a can to provide protection to the metal.
- 229 VOLATILE ORGANIC COMPOUND (VOC):** Any compound that contains at least one atom of carbon, except exempt compounds.

300 STANDARDS

301 VOC LIMITATIONS - Except as provided in Section 302, a person shall not use or apply any coating on any coating line of the type designated below that contains volatile organic compounds in excess of the following limits:

	<u>Coating Category</u>	<u>Grams of VOC/liter of coating as applied, excluding water and exempt compounds.</u>
301.1	Sheet basecoat (interior and exterior) and over-varnish	225
301.2	Two piece can exterior basecoat and over-varnish	250
301.3	Coil Coating	200
301.4	Interior body spray	
	Two piece can	420
	Three piece can	360
301.5	Three piece can side seam spray	660
301.6	End sealing compound:	
	food / beverage	440
	non-food / non-beverage	0
301.7	Exterior body spray	420
301.8	Reconditioned drums, pails and lids coatings:	
	Interior	510
	Exterior	420
301.9	New drums, pails and lids coatings:	
	Exterior, Air Dried	340
	Exterior, Baked	340
	Interior	420
301.10	Inks	225
301.11	Tab Press Lubricant	690
301.12	Necker Lubricants	100

- 302 EMISSION CONTROL SYSTEM:** Alternatively, a person may comply with the provisions of Section 301 by using an emission control system, provided that the overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 85 percent by weight in reducing emissions of organic compounds. The total VOC emissions from operations under this section, considering capture and control efficiencies, shall be equivalent to or less than the VOC emissions level that would be achieved by complying with Section 301. The emission control system shall be approved in writing by the Air Pollution Control Officer in accordance with Rule 501, GENERAL PERMIT REQUIREMENTS.
- 303 APPLICATION METHODS:** Except for can interior and automatic triggered sideseam sprays, a person shall not apply coatings that contain volatile organic compounds unless the coating is applied with one of the following methods:
- 303.1 Electrostatic application operated in accordance with the manufacturer's recommendations.
 - 303.2 Flow coat.
 - 303.3 Roll coat.
 - 303.4 Dip coat.
 - 303.5 Squeegee pad.
 - 303.6 High-volume low-pressure (HVLP) operated in accordance with the manufacturer's recommendations.
- 304 PROHIBITION OF SPECIFICATION:** A person shall not solicit nor require for use nor specify the application of a coating to any metal container or closure if such use or application results in a violation of the provisions of this rule. The prohibition applies to all written or oral contracts under the terms of which any coating that is subject to the provisions of this rule is to be applied to any metal container or closure at any physical location within the District.
- 305 SURFACE PREPARATION AND CLEAN-UP SOLVENT:** The requirements of this section shall apply to any person using VOC-containing materials for surface preparation and clean-up:
- 305.1 A person shall not use materials that have a VOC content in excess of 200 grams per liter of material for surface preparation.
 - 305.2 A person shall use closed, nonabsorbent containers for the storage or disposal of cloth or paper used for clean-up.
 - 305.3 A person shall not use volatile organic compounds for the clean-up of spray equipment, including paint lines, unless an enclosed gun washer or other low-emission washing system approved in writing by the Air Pollution Control Officer is used.
 - 305.4 A person shall not use organic compounds with a composite vapor pressure equal to or greater than 45 mm Hg measured at 20EC (68EF) in a gun washing system.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

- 401.1 VOC Limitations: The VOC limitations described in Section 301, or alternatively Section 302, of this rule shall be achieved on or before October 6, 1995, with the exception of facilities subject to the Tab Press Lubricant limitation of Subsection 301.10, for which compliance is required no later than May 31, 1995.
- 401.2 Application Methods: The application methods described in Section 303 of this rule shall be in use on or before October 6, 1995, with the exception of facilities subject to the Tab Press Lubricant limitation of Subsection 301.10, for which compliance is required no later than May 31, 1995.
- 401.3 Surface Preparation and Clean-Up Solvents: The surface preparation and clean-up solvents and gun washing system described in Sections 305.1, 305.3, and 305.4 shall be in use on or before October 6, 1995, with the exception of facilities subject to the Tab Press Lubricant limitation of Subsection 301.10, for which compliance is required no later than May 31, 1995.
- 401.4 Compliance with all other requirements of this rule shall become effective upon adoption.

402 OPERATION AND MAINTENANCE PLAN: A person using an emission control device as a means of complying with this rule, as provided in Section 302, shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

- 402.1 The Operation and Maintenance Plan shall specify:
 - a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations;
 - b. Records that must be kept to document the operation and maintenance procedures.
- 402.2 The records must comply with Sections 502 and 503; and
- 402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 RECORD-KEEPING:

- 501.1 A person who is subject to the limitations of this regulation shall comply with all applicable record-keeping requirements as specified in Rule 410, RECORD-KEEPING FOR VOLATILE ORGANIC COMPOUND EMISSIONS.

502 CONTROL SYSTEM RECORDS:

- 502.1 A person using an emission control device pursuant to Section 302 as a means of complying with this rule shall maintain records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.
- 502.2 Compliance with the standards of Section 302 shall be demonstrated by conducting annual source testing of any emission control equipment as specified in Section 505 and by analyzing coating VOC content as specified in Section 504.

503 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

504 TEST METHODS FOR VOC CONTENT:

- 504.1 The VOC content of coatings subject to the provisions of this rule shall be analyzed using U.S. EPA Reference Method 24 as found in 40 CFR 60, Appendix A.

505 TEST METHOD FOR VAPOR PRESSURE: Composite vapor pressure of an organic solvent used in a gun washing system shall be determined in accordance with ASTM D2879-83 and the following equation:

$$VP_c = \frac{\sum_{i=1}^n \frac{(W_i / MW_i) P_i^{sat}}{(W_w / MW_w) + (W_e / MW_e) + \sum_{i=1}^n (W_i / MW_i)}}$$

Where:

- VP_c = Composite vapor pressure of an organic solvent, in mm Hg
 W_i = Weight of i^{th} compound, in grams
 W_{m_i} = Molecular weight of i^{th} compound, in grams per gram-mole
 P_i^{sat} = Saturate vapor pressure of i^{th} compound, in mm Hg
 W_w = Weight of water, in grams
 W_e = Weight of exempt compounds, in grams
 MW_w = Molecular weight of water, in grams per mole
 MW_e = Molecular weight of exempt compounds, in grams per mole

506 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY:

- 506.1 Capture efficiency of the emission control system as specified in Section 302 shall be determined in accordance with the U.S. EPA protocols referenced in 40 CFR 52.741(a)(4)(iii).
- 506.2 Control efficiency as specified in Section 302 shall be determined by U.S. EPA Reference Methods 25 and 25A as found in 40 CFR Part 60, Appendix A, or ARB Method 100.

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RULE 224 AGGREGATE CONTAINING ASBESTOS

Adopted 06-17-86

- A. No person shall use aggregate containing asbestos in any application or use except as provided in this Rule.
- B. This Rule shall not apply to the use of aggregate containing asbestos if it is used:
 - 1. In a manner where the aggregate is permanently buried or sealed; or
 - 2. As a road base where the surface and edge berms are to be permanently sealed with asphaltic concrete, concrete, chip seal, (or other methods approved by the Air Pollution Control Officer), and the public is not allowed access to the road prior to its being sealed.
- C. This Rule shall not apply to private right-of-ways, including but not limited to, roads, streets and pathways constructed prior to April 1, 1986.
- D. This Rule shall not apply to right-of-ways which are comprised of aggregate containing asbestos that the Air Pollution Control Officer determines not to be a threat to human health. Such determination shall be made by a health risk assessment methodology approved by the California Department of Health Services.
- E. For the purpose of this Rule, "asbestos" means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, and actinolite-tremolite.
- F. Methods used to determine the asbestos content of aggregate samples shall be determined by the Air Pollution Control Officer.

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RULE 225 WOOD FIRED APPLIANCES

Adopted 06-17-86

A. APPLICABILITY:

1. The provisions of this Rule shall apply to that area known as Squaw Valley as identified on Plate 4, page 58 of the 1983 Squaw Valley General Plan. The legal description of the area for the purpose of this Rule is as follows:

S28 of T16N R16E; S 2 and NE 1/4 of S29 T16N R16E; SE 1/4 of S30 T16N R16E, NE 1/4 of S31 T16N R16E and the N 2 of S32 T16N R16E; and the NW 1/4 of S33 T16N R16E.

2. This regulation shall apply to all commercial and residential wood fired appliance installations.

B. DEFINITIONS:

1. For the purpose of this Rule "Wood Fired Appliance" is defined as an appliance with a closed combustion chamber which maintains an air-to-fuel ratio of less than 30 to 1 during the burning of 90% or more of the fuel mass consumed in the low firing cycle. The low firing cycle means less than or equal to 25% of the maximum burn rate achieved with doors closed or the minimum burn rate, whichever is greater.
2. For the purpose of this Rule "Fireplace" is defined as a combustion chamber which maintains an air to fuel ratio equal to or greater than 30 to 1 during the burning of 90% or more of the fuel mass consumed in the low firing cycle. The low firing cycle means less than or equal to 25% of the maximum burn rate achieved or the minimum burn rate, whichever is greater.
3. For the purpose of this Rule "Catalytic Combuster" is defined as any device coated with platinum, palladium or other rare metal located in the stack or combustion chamber of a wood fired appliance designed to cause relatively complete combustion at lower than normal temperatures.
4. For the purpose of this Rule "Single Family Residential" is defined as:
 - a. A detached building designed for or occupied by one family and located on a parcel where the uses specified in Section 1606.1 of the Placer County Zoning Ordinance are allowable; or
 - b. A detached building, under one roof, designed for or occupied exclusively by, two families living independently of each other and located on a parcel where the use specified in Section 1608.2 of the Placer County Zoning Ordinance is allow able.
5. For the purpose of this Rule "Multiple Unit Residential Development" is defined as dwelling groups or apartments with three or more total units located on a parcel where the use specified in Section 1608 and 1610 of the Placer County Zoning Ordinance is allowable.

6. For the purpose of this Rule "Public Area" is defined as an area of a multiple unit residential development, intended for use by groups of people, including but not limited to a lounge, a restaurant, and a lobby, specifically excluding an office space, a hallway, a bedroom and other associated living areas.

C. STANDARDS:

1. Except as otherwise stated in this Rule, the use of wood fired appliances shall be limited to one certified appliance per commercial or single family residential structure which is approved after July 1, 1986.
2. After July 1, 1986, no person shall install and use in Squaw Valley, any wood fired appliance that is not certified by the State of Oregon, Department of Environmental Quality or as provided in Section C.6. to emit 15 grams per hour or less of particulate matter for non-catalytic equipped appliances, or 6 grams per hour or less for catalytic equipped appliances.
3. After July 1, 1988, no person shall install and use in Squaw Valley any wood fired appliance that is not certified by the State of Oregon, Department of Environmental Quality or as provided in Section C.6. to emit 9 grams per hour or less of particulate matter for non-catalytic equipped appliances or 4 grams per hour or less for catalytic equipped appliances.
4. Wood fired appliances or fireplaces shall not be used in multiple unit residential developments approved after July 1, 1986 except in public areas.
5. The use of coal as a fuel is prohibited.
6. Certification: Each appliance proposed for installation shall be certified by the State of Oregon, Department of Environmental Quality as being within the emission limits established in Section C.2. and C.3. Alternative certification may be used if the Air Pollution Control Officer determines that: 1) the test methodology used for certification is equivalent to that used in the State of Oregon's certification program and, 2) the certified emission levels are no greater than those specified in Section C.2. or C.3. of this Rule.

D. EXCEPTIONS:

1. For single family residential use, approved after July 1, 1986, a person may install and use more than one appliance, as long as the total emissions do not exceed the emission standards specified by Section C.2. or C.3. of this Rule for non-catalytic equipped appliances.
2. For existing single family residential use, a person with an existing non-certified wood fired appliance may install and use one additional wood fired appliance if the additional appliance is certified to meet the emission standards specified by Section C.2. or C.3. of this Rule.
3. Existing wood fired appliances may be replaced on a one to one basis with appliances certified to meet the emission standards specified by Section C.2. or C.3. of this Rule.

RULE 226 SULFUR CONTENT OF FUELS - LAKE TAHOE AIR BASIN

Adopted 06-19-79
(Amended 10-19-93)

This Rule shall apply to the Lake Tahoe Air Basin portion of the District.

- A. A person shall not sell or burn any liquid fuel having a sulfur content in excess of 0.5% by weight.
- B. A person shall not sell or burn any solid fossil fuel having a sulfur content in excess of 0.8% by weight.
- C. A person shall not sell or burn any natural gas or substitute natural gas commercially sold containing sulfur compounds in excess of 120 ppm (parts per million) calculated as hydrogen sulfide (H₂S).
- D. The provisions of Section C of this rule shall not apply to sewage digester gas.

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RULE 227 PETROLEUM DRY CLEANING OPERATIONS

Adopted 02-05-91

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2. EXEMPTION

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4. PERCEPTIBLE LEAKS
5. PETROLEUM DRY CLEANER
6. SETTLING TANK
7. SOLVENT FILTER
8. SOLVENT RECOVERY DRYER
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A. GENERAL

1. PURPOSE

To limit the emission of volatile organic compounds from the following affected facilities located at a petroleum dry cleaning plant; dryers, washers, filters, stills and settling tanks. This rule applies to petroleum dry cleaning plants, constructed, reconstructed, or modified after December 14, 1982.

2. EXEMPTION

SMALL DRY CLEANING PLANTS - DRY CLEANING PLANTS WITH A TOTAL MANUFACTURER'S RATED DRYER capacity less than 38 kilograms (84 pounds) shall comply with this rule within five (5) years of the date of adoption..

B. DEFINITIONS

1. CARTRIDGE FILTER - A discrete filter unit containing both filter paper and activated carbon that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
2. DRYER - A machine used to remove petroleum solvent from articles of clothing, leather goods or other textiles, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.
3. MANUFACTURER'S RATED DRYER CAPACITY - The dryer's rated capacity of articles, in pounds or kilograms of clothing articles per load, dry basis, that is typically found on each dryer, on the manufacturer's name-plate or in the specifications.
4. PERCEPTIBLE LEAKS - Any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid or containers of solvent or solvent laden waste standing open to the atmosphere.
5. PETROLEUM DRY CLEANER - A dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.
6. SETTLING TANK - A container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.
7. SOLVENT FILTER - A discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.
8. SOLVENT RECOVERY DRYER - A class of dry cleaning dryer that employs a condenser to condense and recover solvent vapors evaporated in a closed loop stream of heated air, together with the piping and ductwork used in the installation of this device.
9. STILL - A device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.

10. WASHER - A machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

C. STANDARDS

1. EQUIPMENT INSTALLATION AND OPERATION - A person shall comply with the following requirements:
 - a. Solvent Recovery Dryers - A dryer that is installed in a petroleum dry cleaning facility shall be a solvent recovery dryer. The solvent recovery dryer(s) shall be properly installed, operated, and maintained.
 - b. Cartridge Filters - The petroleum solvent filter installed shall be a cartridge filter. Cartridge filters shall be drained in their sealed housing for at least 24 hours prior to their removal.
 - c. Transfer of Cleaned Articles - Cleaned articles must be immediately transferred from the washer to the dryer, or stored in enclosed transfer carts.
 - d. Operating Requirement - There is no perceptible leak from any portion of the equipment.
2. OTHER REQUIREMENTS - The requirements prescribed in this rule apply on and after the date on which the performance test is required to be conducted, as given in Regulation V, Rule 501, Section 307, Performance Testing. If any other rule in these rules and regulations is more restrictive, that shall apply.

D. ADMINISTRATIVE REQUIREMENTS

1. LABELING REQUIREMENTS - A dry cleaning plant owner or operator shall post a clearly visible label specifying information for solvent recovery dryers. Such information should state: "To protect against fire hazards, loss of valuable solvents, and emissions of solvent to the atmosphere, periodic inspection of this equipment for evidence of leaks and prompt repair of any leaks is recommended." This District recommends that the equipment be inspected every 15 days and all vapor or liquid leaks be repaired within the subsequent 15 day period.

E. MONITORING AND RECORDS

1. MONITORING AND RECORD KEEPING REQUIREMENTS - A person subject to the requirements of this rule shall maintain a record of the performance test required under Regulation IV, Rule 410.
2. TEST METHODS AND PROCEDURES - A person subject to the requirements of this rule shall comply with the test methods and procedures contained in Section 60.624 of 40 CFR Part 60, Subpart JJJ.

RULE 228 FUGITIVE DUST - LAKE TAHOE AIR BASIN

Adopted 06-19-79
(Amended 10-19-93)

This Rule shall apply to the Lake Tahoe Air Basin portion of the District.

- A. No person may cause, suffer, allow, or permit any fine material to be handled, transported, or stored without taking precautions determined by the Air Pollution Control Officer to be necessary. Such precautions may include, but are not limited to:
 - 1. Application of water or suitable chemicals or other specified covering on materials stockpiles, wrecking activity, excavation, grading, sweeping, clearing of land, solid waste disposal operation, or construction or demolition of building or structures;
 - 2. Installation and use of hoods, fans and filters to enclose, collect, and clean the emissions of dusty materials.
 - 3. Covering or wetting at all times when in motion of open-bodies trucks, trailers, or other vehicles transporting materials which can create airborne particulate matter in areas where the general public has access.
- B. No person responsible for the ownership or maintenance of a road or thoroughfare may cause, suffer, allow, or permit a road or thoroughfare to be used, constructed, altered, or repaired without taking precautions determined by the Air Pollution Control Officer to be necessary. Such precautions may include, but are not limited to:
 - 1. Application of asphalt, oil, water or suitable chemicals on dirt roads;
 - 2. Paving of public or commercial parking surfaces;
 - 3. Removal from paved streets and parking surfaces of earth or other material which has a tendency to become airborne;
 - 4. Alternate means of control as approved by the Air Pollution Control Officer.
- C. This rule shall not apply to fugitive dust from publicly maintained unpaved roads where no nuisance or health hazard is created by its usage or where it is demonstrated to the Air Pollution Control Officer that no means are available to finance the necessary road improvements immediately. A reasonable long range schedule for necessary road improvements must be submitted to support the Air Pollution Control Officer's granting such an exemption.

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RULE 229 FIBERBOARD MANUFACTURING

Adopted 06-28-94

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100 GENERAL

101 APPLICABILITY: The provisions of this rule shall apply to Medium Density Fiberboard (MDF) plants.

200 DEFINITIONS

201 FIBER DRYER: A device that uses steam-generated heat to reduce the moisture content of wood fibers.

202 FIBERBOARD PRESS: A device that uses heat and pressure to form fiberboard from a preformed mat of wood fiber and resin.

203 MEDIUM DENSITY FIBERBOARD PLANT: A plant that manufactures medium density fiberboard consisting of a composite wood product created from digested and refined wood fibers bonded with urea-formaldehyde resin.

204 PRESS LINE: A series of operations occurring within the press building including mat forming, fiberboard pressing, board unloading, and board cooling.

205 PRESS VENT: A building opening through which emissions from fiberboard press lines are exhausted from the press line building.

206 VOLATILE ORGANIC COMPOUND (VOC): Any compound that contains at least one atom of carbon, except:

- 206.1 Methane
- 206.2 Carbon dioxide
- 206.3 Carbon monoxide
- 206.4 Carbonic acid
- 206.5 Metallic carbides or carbonates
- 206.6 Ammonium carbonate
- 206.7 1,1,1-trichloroethane
- 206.8 Methylene chloride
- 206.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
- 206.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
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- 206.22 Chlorodifluoromethane (HCFC-22)
- 206.23 Trifluoromethane (HFC-23)
- 206.24 Difluoroethane (HFC-152a)
- 206.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.

- c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
- d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

300 STANDARDS

301 LIMITATIONS: Any person operating an affected MDF plant shall meet the following VOC emission limits:

- 301.1 Wood Fiber Dryers: A capture and control system shall be in operation to reduce VOC emissions from wood fiber dryers. The capture and control system shall be maintained and operated at all times during the operation of the wood fiber dryers. The overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 50% by weight in reducing VOC emissions.
- 301.2 Press Vents: A capture and control system shall be in operation to reduce VOC emissions from press vents. The capture and control system shall be maintained and operated at all times during the operation of the press vents. The overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 57% by weight in reducing VOC emissions.
- 301.3 Maximum Achieved Reduction Limitation: In the event that the overall efficiency of the control systems for the Wood Fiber Dryers and/or the Press Vents result in actual efficiencies equal to or greater than the minimum required efficiencies of Section 301.1 or Section 301.2 for the Wood Fiber Dryers and the Press Vents, respectively, the required emission limitation shall be equal to the highest overall control system efficiency demonstrated.
- 301.4 Allowable Emission Rate: The VOC emission limits satisfying the requirements of Sections 301.1, 301.2, or 301.3, shall be incorporated into the permit to operate of the stationary source and shall be a limiting condition of operation. The emission limitation represented by the application of the overall control system efficiency to the source emissions at the maximum permitted process rate may be expressed in the permit to operate as an emission rate or emission concentration limit.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: The limits specified in Sections 301.1 and 301.2 shall be achieved on or before May 31, 1995.

402 OPERATION AND MAINTENANCE PLAN: A person shall submit an Operation and Maintenance Plan for the emission control device with the application for Authority to Construct or by May 31, 1995, for existing facilities permitted by the District prior to June 28, 1994.

- 402.1 The Operation and Maintenance Plan shall specify:
 - a. Operation and maintenance procedures that will demonstrate

continuous operation of the emission control device during emission-producing operations; and

- b. Records that must be kept to document the operation and maintenance procedures.

402.2 The records must comply with Sections 501 and 502.

402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually, or as otherwise requested by the Air Pollution Control Officer, for approval.

500 MONITORING AND RECORDS

501 CONTROL EQUIPMENT RECORDS:

501.1 Any person using an emission control device shall maintain such records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.

501.2 Compliance with the standards of Sections 301.1 and 301.2 shall be demonstrated by conducting annual source testing of the emission control equipment as specified in Section 503.

501.3 An annual certification of compliance shall be submitted to the Air Pollution Control Officer on or before February 1 of each year. The certification of compliance shall include:

- a. A declaration that the facility is in compliance with all applicable requirements of this rule.
- b. The results of any compliance testing performed during the previous year.
- c. A description of any process upsets that occurred during the previous year that resulted in noncompliance with an emission limit or proper combustion conditions.

502 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from the date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

503 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY:

503.1 Capture efficiency of the emission control system, as specified in Sections 301.1 and 301.2, shall be conducted and reported in accordance with U.S. EPA protocols referenced in 50 CFR 52.741(a)(4)(iii).

503.2 Control efficiency, as specified in Sections 301.1 and 301.2, shall be determined by U.S. EPA Reference Methods 25 or 25A as found in 40 CFR

Part 60, Appendix A.

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RULE 230 PLASTIC PRODUCTS AND MATERIALS - PAPER TREATING OPERATIONS

Adopted 06-28-94

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100 GENERAL

101 APPLICABILITY: The provisions of this rule shall apply to paper treating operations involving the application of melamine and phenolic resins to paper substrates.

200 DEFINITIONS

201 COATING APPLICATOR: An apparatus used to apply a surface coating.

202 EXEMPT COMPOUNDS: For the purposes of this rule, exempt compounds are the following:

- 202.1 Methane
- 202.2 Carbon dioxide
- 202.3 Carbon monoxide
- 202.4 Carbonic acid
- 202.5 Metallic carbides or carbonates
- 202.6 Ammonium carbonate
- 202.7 1,1,1-trichloroethane
- 202.8 Methylene chloride
- 202.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
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- 202.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 202.21 1,1,1-trifluoroethane (HFC-143a)
- 202.22 Chlorodifluoromethane (HCFC-22)
- 202.23 Trifluoromethane (HFC-23)
- 202.24 Difluoroethane (HFC-152a)
- 202.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

203 MELAMINE TREATER: A coating line process where a melamine resin is applied to a paper substrate.

204 OVEN: A chamber within which heat is used for one or more of the following purposes: to dry, bake, cure, or polymerize a surface coating or ink.

205 PAPER TREATING OPERATION: The coating line process in which a uniform layer of phenolic or melamine resin is applied either by a) dipping a continuous, moving paper substrate into the resin and then using rollers to squeeze the excess resin from the paper, or b) applying the resin directly to the paper substrate with a roll applicator. Paper treating operations also include associated oven equipment used for drying the resin coating.

206 PHENOLIC TREATER: The coating line process where a phenolic resin is applied to the paper substrate.

207 POUNDS OF VOC PER GALLON OF COATING LESS WATER AND LESS EXEMPT COMPOUNDS: The weight of VOC per combined volume of VOC and coating solids and is calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / (V_m - V_w - V_{\text{ec}})$$

where:

G_{voc} = Pounds VOC per gallon coating less water and exempt compounds

W_v = Weight of all volatile compounds in pounds

W_w = Weight of water in pounds

W_{ec} = Weight of exempt compounds in pounds

V_m = Volume of coating material in gallons

V_w = Volume of water in gallons

V_{ec} = Volume of exempt compounds in gallons

208 VOLATILE ORGANIC COMPOUND (VOC): Any compound that contains at least one atom of carbon, except exempt compounds.

300 STANDARDS

301 VOC LIMITATIONS: Except as provided in Section 302, the VOC content of coatings applied in paper treating operations shall not exceed 1.75 pounds of VOC per gallon of coating less water and exempt compounds for phenolic treaters, and 0.1 pounds of VOC per gallon of coating less water and exempt compounds for melamine treaters.

302 EMISSION CONTROL SYSTEM: Alternatively, a person may comply with the provisions of Section 301 by using an emission control system, provided that the overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 85 percent by weight in reducing emissions of organic compounds. The total VOC emissions from paper treating operations under this section, considering capture and control efficiencies, shall be equivalent to or less than the VOC emissions level that would be achieved by complying with Section 301. The emission control system shall be approved in writing by the Air Pollution Control Officer in accordance with Rule 501 (General Permit Requirements).

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: The VOC limitations specified in Section 301, or alternatively Section 302, shall be achieved on or before February 1, 1995.

402 OPERATION AND MAINTENANCE PLAN: Any person using an emission control device as a means of complying with this rule, as provided in Section 302, shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
 - b. Records that must be kept to document the operation and maintenance procedures.
- 402.2 The records must comply with Sections 502 and 503.
- 402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 COATING AND SOLVENT RECORDS

- 501.1 Any person subject to the provisions of this rule shall maintain a current list of coatings and solvents used in paper treating operations that includes the information required below. This information shall be updated whenever the coating/solvent formulation is changed, and may be obtained from the coating/solvent manufacturer or from data collected in accordance with the provisions of this rule.
- a. name and manufacturer information;
 - b. mixing instructions;
 - c. density;
 - d. weight percent VOC as applied;
 - e. weight percent water;
 - f. weight percent exempt compounds;
 - g. volume percent water; and
 - h. volume percent exempt compounds.
- 501.2 Any person subject to the provisions of this rule shall maintain records of the amounts of coatings and VOCs used in paper treating operations according to the following schedule:
- a. monthly records showing the types and amounts of coatings used that meet the VOC limitations in Section 301 and
 - b. daily records showing the types and amounts of coatings used in paper treating operations when such usage was in conjunction with an emission control system as provided in Section 302.

502 CONTROL EQUIPMENT RECORDS

502.1 Any person using an emission control device pursuant to Section 302 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.

502.2 Compliance with the standards of Section 302 shall be demonstrated by conducting annual source testing of any emission control equipment as specified in Section 505 and by analyzing resin VOC content as specified in Section 504.

503 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from the date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

504 TEST METHODS FOR VOC CONTENT

504.1 The VOC content of coatings subject to the provisions of this rule shall be analyzed as prescribed in U.S. EPA Reference Method 24 as found in 40 CFR 60, Appendix A.

504.2 The water content of coatings subject to the provisions of this rule shall be analyzed as prescribed in ASTM Method D3792-79.

504.3 Measurement of exempt compounds shall be conducted and reported in accordance with ASTM Method D4457-85. For exempt compounds where no reference test method is available, any person requesting the exemption shall provide appropriate alternative test methods approved by the Air Pollution Control Officer and the U.S. EPA.

505 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY

505.1 Capture efficiency of the emission control system, as specified in Section 302, shall be determined in accordance with the U.S. EPA protocols referenced in 50 CFR 52.741(a)(4)(iii).

505.2 Control efficiency, as specified in Section 302, shall be determined by U.S. EPA Reference Methods 25 or 25A as found in 40 CFR Part 60, Appendix A.

RULE 231 INDUSTRIAL, INSTITUTIONAL, AND COMMERCIAL BOILERS, STEAM GENERATORS, AND PROCESS HEATERS

Adopted 10-17-94
(Amended 10-9-97)

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602 PROCEDURES

100 GENERAL

101 PURPOSE: To limit the emission of Nitrogen Oxides (NO_x) from industrial, institutional and commercial, boilers, steam generators and process heaters.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to facilities in all of Placer County.

102.2 General: This rule applies to boilers, steam generators, and process heaters with rated heat inputs of equal to or greater than 5 million BTU per hour, used in industrial, institutional, and commercial operations.

103 EXEMPTIONS:

103.1 Exemption, Biomass Boilers: The provisions of this rule do not apply to boilers subject to Rule 232, Biomass Suspension Boilers, or Rule 233, Biomass Boilers.

103.2 Exemption, Cement and Lime Kilns, Glass Melting Furnaces, and Smelters: The provisions of this rule do not apply to cement and lime kilns, glass melting furnaces and smelters.

103.3 Exemption, Direct-Contact Dryers: The provisions of this rule do not apply to dryers in which the material being dried is in direct contact with the products of combustion.

103.4 Exemption, Electric Utility Boilers: The provisions of this rule do not apply to boilers used by electric utilities to generate electricity.

103.5 Exemption, Medical Waste Incinerators: This rule shall not apply to those incinerators which are subject to the requirements of Rule 906, Airborne Toxic Control Measure - Medical Waste Incinerators

103.6 Exemption, Municipal Waste Incinerators: This rule shall not apply to boilers, steam generators, or process heaters whose primary purpose is to burn municipal solid waste, as defined in Section 206.

103.7 Exemption, Nongaseous Fuels: Units subject to the requirements of Section 301 that normally burn only gaseous fuel shall comply with a 150 ppmv, or 0.215 pound per million BTU of heat input, NO_x emission limitation when burning nongaseous fuel, if gas is unavailable for purchase. This exemption is limited to not more than 168 hours of operation per calendar year, excluding equipment and emission testing time not exceeding 48 hours per calendar year.

103.8 Exemption, Waste Heat Recovery Boilers: The provisions of this rule do not apply to waste heat recovery boilers that are used to recover sensible heat from the exhaust of combustion turbines.

200 DEFINITIONS

201 ANNUAL HEAT INPUT: The total heat input of fuels burned by a unit in a calendar year, as determined from the higher heating value and cumulative annual usage of each fuel.

202 BOILER OR STEAM GENERATOR: Any combustion equipment fired with any fuel and used to produce steam that is not used exclusively to produce electricity for sale.

- 203 BRITISH THERMAL UNIT (BTU):** The amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.
- 204 GAS:** Any fuel which is a gas at standard conditions.
- 205 HEAT INPUT:** The chemical heat released due to fuel combustion in a unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 206 HIGHER HEATING VALUE (HHV):** The total heat liberated per mass of fuel burned (BTU per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. HHV shall be determined by one of the following test methods:
- 206.1 ASTM D 2015-85 for solid fuels; or
- 206.2 ASTM D 240-87 or ASTM D 2382-82 for liquid hydrocarbon fuels; or
- 206.3 ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels.
- 207 MUNICIPAL SOLID WASTE:** Household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities. Municipal solid waste does not include landfill gas or digester gas or other fuels derived from decomposition of municipal solid wastes.
- 208 NO_x EMISSIONS (NO_x):** The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).
- 209 NONGASEOUS FUEL:** Any fuel which is not a gas at standard conditions.
- 210 PARTS PER MILLION BY VOLUME (PPMV):** - The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 211 PROCESS HEATER:** Any combustion equipment fired with any fuel, and which transfers heat from combustion gases to water or process streams.
- 212 RATED HEAT INPUT CAPACITY:** The heat input capacity, in million BTU per hour, specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the maximum heat input shall be considered as the rated heat input.
- 213 RESPONSIBLE OFFICIAL:** An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:
- 213.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who

performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

- a. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
- b. The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer;

213.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or

213.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or

214 STANDARD CONDITIONS: For purposes of this rule, a gas temperature of 68°F Fahrenheit and a gas pressure of 14.7 pounds per square inch absolute.

215 THERM: One hundred thousand (100,000) BTU.

216 UNIT: Any boiler, steam generator or process heater as defined in Sections 202 and 211.

300 STANDARDS

301 ANNUAL HEAT INPUTS \$ 90,000 THERMS: For units with rated heat inputs of greater than or equal to 5 million BTU per hour and annual heat inputs of greater than or equal to 90,000 therms per year, NO_x emissions shall not exceed the following levels:

- 301.1 30 parts per million by volume (ppmv), or 0.036 pound per million BTU of heat input when operated on gas; or
- 301.2 40 parts per million by volume (ppmv), or 0.052 pound per million BTU of heat input, when operated on nongaseous fuel; or
- 301.3 The heat-input weighted average of the limits specified in 301.1 and 301.2, above, when operated on combinations of gas and nongaseous fuels.
- 301.4 Emissions from units subject to this section shall not exceed a carbon monoxide concentration of 400 parts per million by volume (ppmv).

302 ANNUAL HEAT INPUTS < 90,000 THERMS: Units with rated heat inputs of greater than or equal to 5 million BTU per hour and annual heat inputs of less than 90,000 therms per year shall be:

- 302.1 Operated in a manner that maintains stack-gas oxygen concentrations at less than or equal to 3.00 percent by volume on a dry basis; or
- 302.2 Operated with a stack-gas oxygen trim system set at 3.00 percent by volume oxygen. The tolerance of this setting shall be plus or minus (") five percent (i.e. 2.85 to 3.15 percent by volume oxygen); or
- 302.3 Tuned at least once per year by a technician that is qualified, to the satisfaction of the Air Pollution Control Officer, to perform tuning in accordance with Section 600; or

- 302.4 Operated in compliance with the applicable emission levels specified in Section 301.

303 EQUIPMENT REQUIREMENTS:

- 303.1 For units which simultaneously fire combinations of different fuels, and are subject to the requirements of Section 301, non-resettable totalizing mass flow rate meters shall be installed in each fuel line. Alternatively, non-resettable totalizing volumetric flow rate meters may be installed in conjunction with temperature and pressure meters in each fuel line.
- 303.2 For units which employ flue-gas NOx reducing technology, and are subject to the requirements of Section 301, meters, as applicable, shall be installed to allow instantaneous monitoring of the operational characteristics of the NOx reduction equipment.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE:

- 401.1 By January 1, 1995, any person subject to this rule shall submit a plan containing the following:
- a. A list of all units with their rated heat inputs and anticipated annual heat inputs.
 - b. For each unit subject to Section 301, the selected method of achieving compliance with the applicable standards of Section 301.
 - c. For each unit subject to Section 302, the selected option (one of four specified in Section 302) to achieve compliance with that section.
- 401.2 By May 31, 1995, any Major Source subject to this rule shall demonstrate final compliance with all applicable standards and requirements of Section 300. Subject to the approval of the Air Pollution Control Officer, testing conducted in the 18 months preceding May 31, 1995, may be used to demonstrate compliance provided such testing meets the requirements of Sections 502.1, using the test methods specified in Section 502.3.
- 401.3 By October 17, 1996, any non-Major Source subject to this rule shall submit an application for Authority to Construct for any modifications required to achieve compliance with the requirements of this rule.
- 401.4 By October 17, 1997, any non-Major Source subject to this rule shall demonstrate final compliance with all applicable standards and requirements of this rule.
- 401.5 Any non-Major Source subject to this rule installing a new or replacement boiler shall comply with this rule for the new or replacement boiler effective October 17, 1995.
- 401.6 A violation of the plan required under Section 401.1 shall constitute a violation of this rule.

402 COMPLIANCE DETERMINATION:

402.1 Any person subject to this rule shall have the option of complying with either the pounds-per-million-BTU emission rates or the parts-per-million-by-volume emission limits specified in Section 301.

402.2 All ppmv emission limits specified in Sections 106 and 301 are referenced at dry stack-gas conditions and 3.00 percent by volume stack-gas oxygen. Emission concentrations shall be corrected to 3.00 percent oxygen as follows:

$$[\text{ppm NOx}]_{\text{corrected}} = \frac{20.95\% - 3.00\%}{20.95\% - [\% \text{O}_2]_{\text{measured}}} \times [\text{ppm NOx}]_{\text{measured}}$$
$$[\text{ppm CO}]_{\text{corrected}} = \frac{20.95\% - 3.00\%}{20.95\% - [\% \text{O}_2]_{\text{measured}}} \times [\text{ppm CO}]_{\text{measured}}$$

402.3 All pounds-per-million-BTU emission rates shall be calculated as pounds of nitrogen dioxide (NO₂) per million BTU of heat input.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 FUEL USAGE AND OPERATING HOURS

501.1 Any person subject to this rule shall monitor and record for each unit the HHV and cumulative annual usage of each fuel.

501.2 The cumulative annual usage of each fuel shall be monitored from utility service meters, purchase, or tank fill records, or by any other acceptable methods approved by the Air Pollution Control Officer.

501.3 Any person subject to this rule, but exempt from Section 301 in accordance with Section 106, shall monitor and record for each unit the cumulative hours of operation on each nongaseous fuel. The records shall be updated weekly and made available to the District upon request.

502 SOURCE TESTS

502.1 Except for units in compliance with the tuning option of Section 302.3, a source test shall be conducted for all units subject to this rule to demonstrate compliance. A report of this source test shall include the operational characteristics of any flue-gas NOx reduction equipment. Additional source testing may be required by the Air Pollution Control Officer as necessary to ensure compliance with the standards set forth in Sections 301 and 302. Compliance source testing is required on an annual basis for sources subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM.

502.2 All source tests shall be made in the as-found operating condition, except that

source tests shall include at least one test conducted at the maximum firing rate allowed by the District permit, and no source test shall be conducted within two hours after a continuous period in which fuel flow to the unit is zero, or shut off, for thirty minutes or longer. A separate source test shall be conducted for each fuel burned including standby fuel.

502.3 Compliance with NOx emission requirements and the stack-gas carbon monoxide and oxygen requirements of Section 300 shall be determined using the following test methods:

- a. Oxides of Nitrogen - ARB Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling.
- b. Carbon Monoxide - ARB Method 100.
- c. Stack-Gas Oxygen - ARB Method 100.
- d. NOx Emission Rate (Heat Input Basis) - EPA Method 19, 40 CFR Part 60, Appendix A.

502.4 All emission concentrations and emission rates shall be based on 15-consecutive-minute averages. These averages shall be calculated from no less than five data sets, recorded from samplings on intervals of no greater than three minutes.

502.5 Integrated sampling methods for oxides of nitrogen, stack-gas oxygen, and stack-gas carbon monoxide, as approved by the Air Pollution Control Officer, EPA and ARB, may be acceptable for determination of compliance with NOx emission concentration or rate limits.

503 TUNING REPORTS: Units covered under Section 302.3 shall be tuned not less than once every 12 months. Tuning verification reports shall be submitted not less than once every 12 months for each fuel burned. The first tuning verification report shall be submitted by October 17, 1997, for non-Major Sources, and by May 31, 1995, for Major Sources subject to this rule.

504 RETENTION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least three years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

600 TUNING PROCEDURE

601 GENERAL: Nothing in this tuning procedure¹ shall be construed to require any act or omission that would result in unsafe conditions or would be in violation of any regulation or requirement established by Factory Mutual, Industrial Risk Insurers, National Fire Prevention Association, the California Department of Industrial Relations (Occupational Safety and Health Division), the Federal Occupational Safety and Health Administration, or other relevant regulations and requirements.

602 PROCEDURES:

601.1 Operate the unit at the firing rate most typical of normal operation. If the unit

¹THIS TUNING PROCEDURE IS BASED ON A PROCEDURE DEVELOPED BY KVB, INC. FOR THE U.S. EPA.

experiences significant load variations during normal operations, operate the unit at its average firing rate.

- 601.2 At the firing rate established in Section 601.1, record stack-gas temperatures, oxygen concentration, and CO concentration (for gaseous fuels) or smoke-spot number² (for liquid fuels), and observe flame conditions after unit operation stabilizes at the selected firing rate. If the excess oxygen in the stack-gas is at the lower range of typical minimum values³, and if CO emissions are low and there is no smoke, the unit is probably operating at near optimum efficiency - at this particular firing rate. However, complete the remaining portion of this procedure to determine whether still lower oxygen levels are practical.
- 602.3 Increase combustion air flow until the stack-gas oxygen levels increase by one or two percent over the level measured in Section 602.2. As in Section 602.2, record the stack-gas temperature, CO concentration (for gaseous fuels) or smoke-spot number (for liquid fuels), and observe flame conditions for these higher oxygen levels after unit operation stabilizes.
- 602.4 Decrease combustion air flow until the stack-gas oxygen is at the level measured in Section 602.2. From this level gradually reduce the combustion air flow, in small increments. After each increment, record the stack-gas temperature, oxygen concentration, CO concentration (for gaseous fuels), and smoke-spot number (for liquid fuels). Also, observe the flame and record any changes in its condition.
- 602.5 Continue to reduce combustion air flow stepwise, until one of the following limits is reached:
- Unacceptable flame conditions - such as flame impingement on furnace walls or burner parts, excessive flame carryover, or flame instability;
 - Stack-gas CO concentrations greater than 400 ppm;
 - Smoking at stack;
 - Equipment-related limitations - such as low windbox/furnace pressure differential, built-in air-flow limits, etc.
- 602.6 Develop an O₂/CO curve (for gaseous fuels) or O₂/smoke curve (for liquid fuels) similar to those shown in Figures 1 and 2 using the excess oxygen and CO or smoke-spot number data obtained at each combustion air flow setting.
- 602.7 From the curves prepared in Section 602.6, find the stack-gas oxygen levels where the CO emissions or smoke-spot number equal the following values:

Fuel	Measurement	Value
------	-------------	-------

THE SMOKE-SPOT NUMBER CAN BE DETERMINED WITH ASTM TEST METHOD D-2156 OR WITH THE BACHARACH METHOD. THE BACHARACH METHOD IS INCLUDED IN A TUNE-UP KIT THAT CAN BE PURCHASED FROM THE BACHARACH COMPANY.

TYPICAL MINIMUM OXYGEN LEVELS FOR UNITS AT HIGH FIRING RATES ARE:

- A. FOR NATURAL GAS: 0.5 - 3%
B. FOR LIQUID FUELS: 2 - 4%.

Gaseous	CO Emissions	400 PPM
#1 & #2 Oils	Smoke Spot Number	Number 1
#4 Oil	Smoke Spot Number	Number 2
#5 Oil	Smoke Spot Number	Number 3
Other Oils	Smoke Spot Number	Number 4

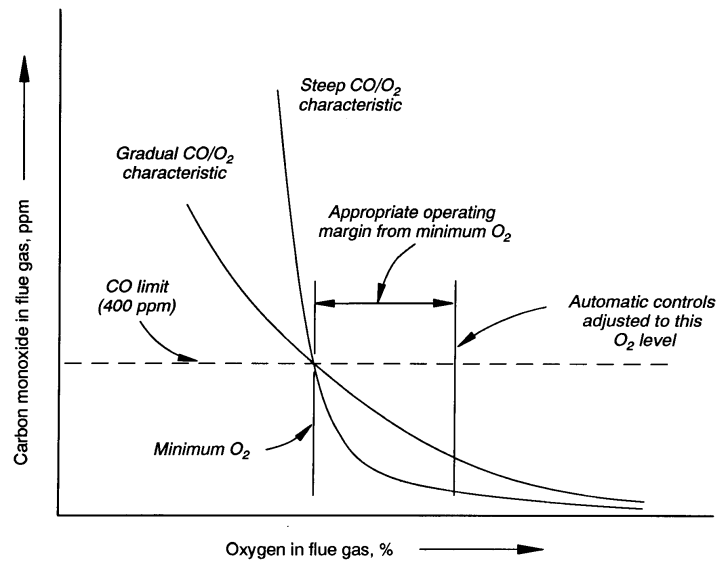
The above conditions are referred to as the CO or smoke-spot thresholds, or as the minimum excess oxygen levels. Compare this minimum value of excess oxygen to the expected value provided by the combustion unit manufacturer. If the minimum level found is substantially higher than the value provided by the manufacturer, burner adjustments can probably be made to improve fuel and air mix, thereby allowing operations with less air.

- 602.8 Add 0.5 to 2.0 percent to the minimum excess oxygen level found in Section 602.7 and reset burner controls to operate automatically at this higher stack-gas oxygen level. This margin above the minimum oxygen level accounts for fuel variations, variations in atmospheric conditions, load changes, and non-repeatability or play in automatic controls.
- 602.9 If the load of the combustion unit varies significantly during normal operation, repeat Sections 602.1-602.8 for the firing rates that represent the upper and lower limits of the range of the load. Because control adjustments at one firing rate may affect conditions at other firing rates, it may not be possible to establish the optimum excess oxygen level at all firing rates. If this is the case, choose the burner control settings that give the best performance over the range of the firing rates. If one firing rate predominates, the setting should optimize the conditions at the rate.
- 602.10 Verify that the new settings can accommodate the sudden load changes that may occur in daily operation without adverse effects. Do this by increasing and decreasing load rapidly while observing the flame and stack. If any of the conditions in Section 602.5 result, reset the combustion controls to provide a slightly higher level of excess oxygen at the affected firing rates. Next, verify these new settings in a similar fashion. Then make sure that the final control settings are recorded at steady-state operating conditions for future reference.

Figure 1

Oxygen(O_2)/CO Characteristic Curve

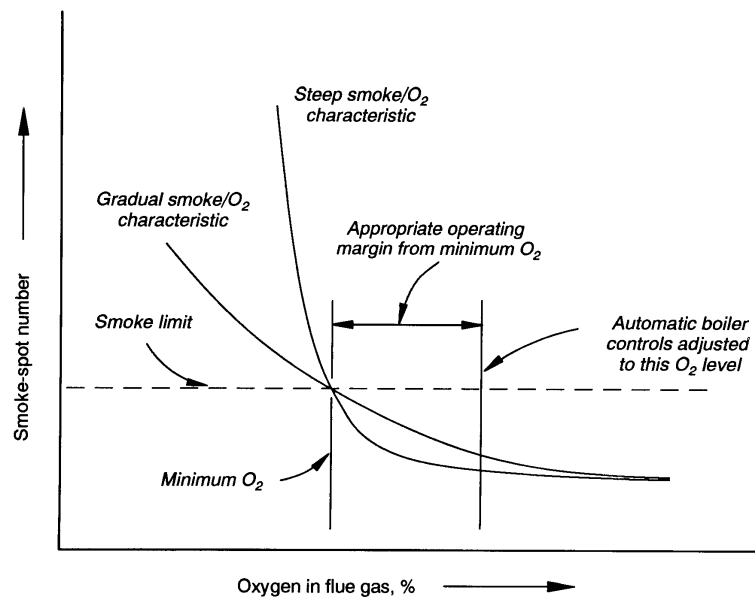
SOURCE: KVB INC.



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Figure 2
Oxygen(O_2)/Smoke Characteristic Curve

SOURCE: KVB INC.



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RULE 232 BIOMASS SUSPENSION BOILERS

Adopted 10-6-94, (Amended 12-9-99)

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December 9, 1999

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100 GENERAL

- 101 APPLICABILITY:** This rule applies to biomass suspension boilers and steam generators which have a potential to emit, as defined in Rule 502, New Source Review, 25 tons or more of NO_x emissions; which have a primary energy source of biomass from a medium density fiberboard plant consisting of a minimum of 25 percent of the total annual heat input; and which use suspension-type burners.
- 102 FEDERAL REGULATIONS:** Compliance with this rule shall not exempt a person from complying with any federal regulation promulgated pursuant to the Clean Air Act (42 U.S.C. Section 7401 et seq.).
- 103 EXEMPTION, BOILERS, STEAM GENERATORS, AND PROCESS HEATERS:** This rule shall not apply to boilers, steam generators, and process heaters subject to Rule 231, INDUSTRIAL, INSTITUTIONAL, AND COMMERCIAL BOILERS, STEAM GENERATORS, AND PROCESS HEATERS.
- 104 EXEMPTION, BIOMASS BOILERS:** This rule shall not apply to boilers and steam generators subject to Rule 233, BIOMASS BOILERS.
- 105 EXEMPTION, MUNICIPAL SOLID WASTE:** This rule shall not apply to combustion units whose primary purpose is to burn municipal solid waste, as defined in Section 207.
- 106 EXEMPTION, WASTE HEAT RECOVERY BOILERS:** This rule shall not apply to waste heat recovery boilers used to recover sensible heat from the exhaust of combustion turbines or unfired waste heat recovery boilers used to recover sensible heat from the exhaust of any combustion equipment.

200 DEFINITIONS

- 201 BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 202 BIOMASS SUSPENSION BOILER OR STEAM GENERATOR:** Any combustion equipment used in any industrial, institutional, or commercial operation which uses a suspension-type burner to combust biomass to produce steam, heat water or other fluids, and/or produce electricity.
- 203 BRITISH THERMAL UNIT (BTU):** The amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.
- 204 HEAT INPUT:** The chemical heat released due to fuel combustion in a boiler, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 205 HIGHER HEATING VALUE (HHV):** The total heat liberated per mass of fuel burned (BTU per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. HHV shall be determined by one of the following test methods:

205.1 ASTM D 2015-85 for solid fuels; or

205.2 ASTM D 240-87 or ASTM D 2382-82 for liquid hydrocarbon fuels; or

205.3 ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89 for gaseous fuels.

206 MEDIUM DENSITY FIBERBOARD PLANT: A plant that manufactures medium density fiberboard consisting of a composite wood product created from digested and refined wood fibers bonded with urea-formaldehyde resin.

207 MUNICIPAL SOLID WASTE: Household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities.

208 NO_x EMISSIONS: The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).

209 PARTS PER MILLION BY VOLUME (PPMV): The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.

210 RATED HEAT INPUT CAPACITY: The heat input capacity, in million BTU per hour, specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the input capacity specified on the nameplate, and this alteration or modification has been approved by the Air Pollution Control Officer and made a limiting condition of operation, then the new maximum heat input shall be considered as the rated heat input capacity.

211 RESPONSIBLE OFFICIAL: An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:

211.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

- a. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
- b. The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer;

211.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or

211.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or

211.4 For an acid rain unit subject to Title IV (Acid Deposition Control) of the Clean Air Act, the "responsible official" is the designated representative of that unit for any purposes under Title IV and Rule 507, FEDERAL OPERATING PERMITS PROGRAM.

- 212 SHUTDOWN:** The period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.
- 213 STARTUP:** The period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.
- 214 SUSPENSION-TYPE BURNER:** A burner in which solid fuel, in particle form, is combusted in suspension in air.
- 215 UNIT:** Any biomass suspension boiler or steam generator as defined in Sections 202.
- 216 WOOD:** Wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

300 STANDARDS

301 LIMITATIONS:

- 301.1 The nitrogen oxide emissions into the atmosphere from a biomass suspension boiler or steam generator shall not exceed 568 ppmv corrected to 12 percent by volume stack gas CO₂ on a three-hour average dry basis.
- 301.2 The carbon monoxide emissions into the atmosphere from a biomass suspension boiler or steam generator shall not exceed 400 ppmv corrected to 12 percent by volume stack gas CO₂ on a three-hour average dry basis.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: Full compliance with all applicable standards and requirements of Section 300 and the Continuous Emissions Monitoring System requirements of Section 502 is required upon adoption of this Rule.

402 OPERATION AND MAINTENANCE PLAN: Any person installing an emission control device as a means of complying with the emission limitations of Section 301 shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
- b. Records that must be kept to document the operation and maintenance procedures.

402.2 The records must comply with Sections 501, 502, and 505.

402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

402.4 Subsequent to the construction of any emission control device used for demonstrating compliance with the emission limitation of Section 301, an Operation and Maintenance Plan shall be submitted or resubmitted in conjunction with any changes in the procedures addressed in the plan, or upon the request of the Air Pollution Control Officer.

- 403 COMPLIANCE COSTS:** A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.
- 404 CERTIFICATION:** All reports submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

- 501 RECORD-KEEPING:** A person operating a unit subject to this rule shall keep the following records for each unit:

- 501.1 Calendar date of record.
- 501.2 Number of hours the unit is operated during each day.
- 501.3 Boiler load.
- 501.4 Fuel types, including supplementary gaseous or liquid fuels.
- 501.5 Duration of startups and shutdowns.
- 501.6 Type and duration of maintenance and repairs.
- 501.7 Results of compliance tests.
- 501.8 Three-hour average NO_x emission concentration (expressed as NO₂ and corrected to 12 percent by volume stack gas CO₂).
- 501.9 Three-hour average CO emission concentration (corrected to 12 percent by volume stack gas CO₂).
- 501.10 Identification of time periods during which NO_x and CO emission limitations are exceeded, the reason for the exceedance, and a description of corrective action taken.
- 501.11 Identification of time periods during which operating condition and pollutant emission data were not obtained, the reason for not obtaining this information, and a description of corrective action taken.

502 CONTINUOUS EMISSIONS MONITORING

- 502.1 A person operating a unit subject to this rule shall install, calibrate, operate, and maintain a Continuous Emissions Monitoring System (CEMS) in accordance with applicable requirements of Appendices B and F of Title 40 Code of Federal Regulations Part 60 (40 CFR 60).
- 502.2 The CEMS shall include equipment that measures and records the following:
 - a. Continuous exhaust gas NO_x and CO concentrations corrected to 12 percent by volume stack gas CO₂ dry basis.
 - b. Average NO_x and CO concentrations calculated on a three-hour average basis.
- 502.3 A person operating a CEMS shall submit an excess emissions and monitoring systems performance report to the Air Pollution Control Officer within 30 days after the end of each calendar quarter in accordance with 40 CFR 60, Section 60.7(c) and (d) and Section 60.13.

502.4 A relative accuracy test audit (RATA) is required each calendar year.

502.5 The enhanced monitoring requirements of Sections 113 and 114 of the Federal Clean Air Act shall take precedence over the requirements of this Section for facilities subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM.

503 COMPLIANCE TEST

503.1 A person who operates a unit subject to this rule shall conduct an annual compliance test.

a. Each emission test run shall be conducted while the unit is operated within 10% of the rated heat input capacity. No emission test shall be conducted during startup, shutdown, or under breakdown conditions for the purpose of the initial compliance test.

b. The compliance test shall be conducted for NO_x and CO using the test methods specified in Section 504.

503.2 At least sixty (60) days prior to the compliance test, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule. The plan shall provide the proposed procedures for the characterization of the representative biomass materials to be burned during testing.

504 TEST METHODS - A person conducting source tests in accordance with Section 503 shall use the following test methods:

504.1 Nitrogen Oxides (NO_x): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule

504.2 Carbon Monoxide (CO): ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100, or EPA Test Method 10, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

504.3 Carbon Dioxide (CO₂): ARB Test Method 100, or EPA Test Method 3A.

505 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

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RULE 233 BIOMASS BOILERS

Adopted 10-06-94

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100 GENERAL

- 101 APPLICABILITY:** This rule applies to boilers and steam generators which have a potential to emit, as defined in Rule 502, NEW SOURCE REVIEW, 25 tons or more of NO_x emissions and which have a primary energy source of biomass consisting of a minimum of 75 percent of the total annual heat input.
- 102 FEDERAL REGULATIONS:** Compliance with this rule shall not exempt a person from complying with any federal regulation promulgated pursuant to the Clean Air Act (42 U.S.C. Section 7401 et seq.).
- 103 EXEMPTION, BOILERS, STEAM GENERATORS, AND PROCESS HEATERS:** This rule shall not apply to boilers, steam generators, and process heaters subject to Rule 231, INDUSTRIAL, INSTITUTIONAL, AND COMMERCIAL BOILERS, STEAM GENERATORS, AND PROCESS HEATERS.
- 104 EXEMPTION, BIOMASS SUSPENSION BOILERS:** This rule shall not apply to existing boilers and steam generators subject to Rule 232, BIOMASS SUSPENSION BOILERS.
- 105 EXEMPTION, MUNICIPAL SOLID WASTE:** This rule shall not apply to combustion units whose primary purpose is to burn municipal solid waste, as defined in Section 206.
- 106 EXEMPTION, WASTE HEAT RECOVERY BOILERS:** The provisions of this rule do not apply to waste heat recovery boilers used to recover sensible heat from the exhaust of combustion turbines or unfired waste heat recovery boilers used to recover sensible heat from the exhaust of any combustion equipment.

200 DEFINITIONS

- 201 BIOMASS:** Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. Biomass does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or radioactive waste.
- 202 BIOMASS BOILER OR STEAM GENERATOR:** Any combustion equipment used in any industrial, institutional, or commercial operation designed to burn biomass to produce steam, heat water or other fluids, and/or produce electricity.
- 203 BRITISH THERMAL UNIT (BTU):** The amount of heat required to raise the temperature of one pound of water from 59EF to 60EF at one atmosphere.
- 204 HEAT INPUT:** The chemical heat released due to fuel combustion in a boiler, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.
- 205 HIGHER HEATING VALUE (HHV):** The total heat liberated per mass of fuel burned (BTU per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. HHV shall be determined by one of the following test methods:
- 205.1 ASTM D 2015-85 for solid fuels; or
- 205.2 ASTM D 240-87 or ASTM D 2382-82 for liquid hydrocarbon fuels; or
- 205.3 ASTM D 1826-88 or ASTM D 1945-81 in conjunction with ASTM D 3588-89 for

gaseous fuels.

- 206 MUNICIPAL SOLID WASTE:** Household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, non-manufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities.
- 207 NO_x EMISSIONS:** The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).
- 208 PARTS PER MILLION BY VOLUME (PPMV):** The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.
- 209 RATED HEAT INPUT CAPACITY:** The heat input capacity, in million BTU per hour, specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the input capacity specified on the nameplate, and this alteration or modification has been approved by the Air Pollution Control Officer and made a limiting condition of operation, then the new maximum heat input shall be considered as the rated heat input capacity.
- 210 RESPONSIBLE OFFICIAL:** An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:
- 210.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
 - a. The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - b. The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer;
 - 210.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or
 - 210.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or
 - 210.4 For an acid rain unit subject to Title IV (Acid Deposition Control) of the Clean Air Act, the "responsible official" is the designated representative of that unit for any purposes under Title IV and Rule 507, FEDERAL OPERATING PERMITS PROGRAM.
- 211 SHUTDOWN:** The period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.
- 212 STARTUP:** The period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

213 UNIT: Any biomass boiler or steam generator as defined in Sections 202.

214 WOOD: Wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

300 STANDARDS

301 LIMITATIONS:

301.1 No person shall allow the discharge of NO_x emissions into the atmosphere from a biomass boiler or steam generator in excess of the following standards, whichever is less stringent:

- a. An exhaust concentration of 115 parts per million (ppmv) corrected to 12 percent by volume stack gas carbon dioxide (CO₂) on a three-hour average dry basis.
- b. 50 percent of the uncontrolled NO_x emission concentration in the exhaust gas stream. A corresponding controlled concentration limit, expressed in ppmv corrected to 12 percent by volume stack gas CO₂ on a three-hour average dry basis, shall be established in a Permit to Operate for the purpose of demonstrating continuous compliance with the 50 percent emission reduction.

301.2 A person operating a biomass boiler or steam generator subject to this rule shall establish a carbon monoxide (CO) emission limitation that represents good operating and combustion practices. No person shall allow the discharge of CO into the atmosphere in excess of 120 percent of the CO exhaust concentration established by an initial compliance test conducted in accordance with Section 503. The CO concentration in ppmv shall be corrected to 12 percent by volume stack gas CO₂ on a 3-hour average dry basis.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

401.1 Any person operating a unit subject to this rule shall demonstrate full compliance with the emission limitations of Section 300 by May 31, 1995. Subject to the approval of the Air Pollution Control Officer, testing conducted in the 18 months preceding May 31, 1995, may be used to demonstrate compliance provided such testing meets the requirements of Sections 503.1 or Section 503.2, using the test methods specified in Section 504.

401.2 Any person operating a unit subject to this rule shall demonstrate compliance with the continuous emissions monitoring requirements of Section 502 in accordance with the following schedule:

- a. By April 6, 1995, submit plans and specifications for the Continuous Emissions Monitoring System, including milestones for installation and certification of the proposed system.
- b. By October 6, 1996, achieve full compliance with all requirements of Section 502. Full compliance shall be achieved no later than 60 days after installation of the Continuous Emissions Monitoring System.

402 OPERATION AND MAINTENANCE PLAN: Any person installing an emission control device as a means of complying with the emission limitations of Section 301 shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
- b. Records that must be kept to document the operation and maintenance procedures.

402.2 The records must comply with Sections 501, 502, and 505.

402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.

402.4 Subsequent to the construction of any emission control device used for demonstrating compliance with the emission limitation of Section 301, a Operation and Maintenance Plan shall be submitted or resubmitted in conjunction with any changes in the procedures addressed in the plan, or upon the request of the Air Pollution Control Officer.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 RECORD-KEEPING - A person operating a unit subject to this rule shall keep the following records for each unit:

- 501.1 Calendar date of record.
- 501.2 Number of hours the unit is operated during each day.
- 501.3 Boiler load.
- 501.4 Fuel types, including supplementary gaseous or liquid fuels.
- 501.5 Duration of startups and shutdowns.
- 501.6 Type and duration of maintenance and repairs.
- 501.7 Results of compliance tests.
- 501.8 Three-hour average NO_x emission concentration (expressed as NO₂ and corrected to 12 percent by volume stack gas CO₂).
- 501.9 Three-hour average CO emission concentration (corrected to 12 percent by volume stack gas CO₂).

501.10 Identification of time periods during which NO_x and CO emission limitations are exceeded, the reason for the exceedance, and a description of corrective action taken.

501.11 Identification of time periods during which operating condition and pollutant emission data were not obtained, the reason for not obtaining this information, and a description of corrective action taken.

502 CONTINUOUS EMISSIONS MONITORING

502.1 By the compliance date in Section 401.2, a person operating a unit subject to this rule shall install, calibrate, operate, and maintain a Continuous Emissions Monitoring System (CEMS) in accordance with applicable requirements of Appendices B and F of Title 40 Code of Federal Regulations Part 60 (40 CFR 60).

502.2 The CEMS shall include equipment that measures and records the following:

- a. Continuous exhaust gas NO_x and CO concentrations corrected to 12 percent by volume stack gas CO₂ dry basis.
- b. Average NO_x and CO concentrations calculated on a three-hour average basis.

502.3 A person operating a CEMS shall submit an excess emissions and monitoring systems performance report to the Air Pollution Control Officer within 30 days after the end of each calendar quarter in accordance with 40 CFR 60, Section 60.7(c) and (d) and Section 60.13.

502.4 The enhanced monitoring requirements of Sections 113 and 114 of the Federal Clean Air Act shall take precedence over the requirements of this Section for facilities subject to Rule 507, FEDERAL OPERATING PERMIT PROGRAM.

503 INITIAL COMPLIANCE TEST

503.1 A person who elects to comply with the limitation specified in Section 301.1.a shall conduct an initial compliance test no later than the applicable final compliance date in Section 401.1. The source test shall also be used to establish the CO limitation in accordance with Section 301.2.

- a. Each emission test run shall be conducted while the unit is operated within 10% of the rated heat input capacity. No emission test shall be conducted during startup, shutdown, or under breakdown conditions for the purpose of the initial compliance test.
- b. The initial compliance test shall be conducted for NO_x and CO using the test methods specified in Section 504.

503.2 A person who chooses to comply with the limitation specified in Section 301.1.b shall conduct an initial compliance test no later than the applicable final compliance date in Section 401.1. The source test shall also be used to establish the CO limitation in accordance with Section 301.2.

- a. Each emission test run shall be conducted while the unit is operated within 10% of the rated heat input capacity. No emission test shall be conducted during startup, shutdown, or under breakdown conditions for the purpose of the initial compliance test.

- b. The initial compliance test shall be conducted for NO_x and CO using the test methods specified in Section 504.
- c. The 50 percent NO_x emission reduction specified in Section 301.1.b shall be calculated based on the pre- and post-controlled NO_x concentration corrected to 12 percent by volume stack gas CO₂. The pre-controlled concentration to be used in demonstrating the 50 percent reduction shall be obtained using the test methods specified in Section 504. The pre-controlled concentration shall be submitted to the Air Pollution Control Officer in the application for Authority to Construct specified in Section 401.2 or in a previously submitted application for Authority to Construct for an existing unit.

503.3 At least sixty (60) days prior to the initial compliance test, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule. The plan shall provide the proposed procedures for the characterization of the representative biomass materials to be burned during testing.

504 TEST METHODS - A person conducting source tests in accordance with Section 503 shall use the following test methods:

504.1 Nitrogen Oxides (NO_x): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

504.2 Carbon Monoxide (CO): ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100, or EPA Test Method 10, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

504.3 Carbon Dioxide (CO₂): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 3A, 40 CFR 60, Appendix A.

505 CORRECTION OF EMISSION CONCENTRATIONS: NO_x and CO concentrations may be corrected to 8 percent by volume stack gas O₂ instead of 12 percent by volume stack gas CO₂ if approved by the Air Pollution Control Officer in a Permit to Operate.

506 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

RULE 234 AUTOMOTIVE REFINISHING OPERATIONS

Adopted 11-03-94
(Amended 8-24-95, 8-8-96, 4-9-98)

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100 GENERAL

- 101 PURPOSE:** To limit the emission of volatile organic compounds from finishing or refinishing of Group I and Group II Vehicles and Equipment as defined in this rule.
- 102 APPLICABILITY:** The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.
- 103 EXEMPTION FROM RULE 219:** The provisions of Rule 219, Organic Solvents, shall not apply to the refinishing of vehicles and equipment as defined in Rule 234.
- 104 EXEMPTION, TOUCH-UP:** The provisions of this rule shall not apply to touch-up operations.
- 105 EXEMPTION, GRAPHIC DESIGN APPLICATION:** The provisions of this rule shall not apply to application of graphic designs.
- 106 EXEMPTION, MILITARY VEHICLES AND GROUND SUPPORT EQUIPMENT:** The provisions of this rule shall not apply to the coating of military vehicles and ground support equipment.
- 107 EXEMPTION, RADIATORS:** The provisions of this rule shall not apply to the coating of radiators and engine parts.
- 108 EXEMPTION, AEROSOL PAINT PRODUCTS:** The provisions of this rule shall not apply to the application of aerosol paint products from non-refillable aerosol containers having a capacity of one liter (34 fluid ounces), or less.
- 109 LIMITED EXEMPTION, SELF-CONTAINED COATING APPLICATION:** The provisions of Section 302, shall not apply to the application of high viscosity or thixotropic coatings with application equipment that is supplied with and is an integral part of the coating container.
- 110 LIMITED EXEMPTION, SMALL PRODUCTION/UTILITY BODIES:** The provisions of Section 301, shall not apply to coatings applied to small production and utility bodies that must match the vehicles upon which they will be mounted. When production is less than or equal to 20 vehicles per day, any coating with a VOC content not in excess of the standards set forth in Section 301.1 can be used. If production is greater than 20 vehicles per day, any coating with a VOC content not in excess of the standards set forth in Section 301.2 can be used. Daily records shall be maintained on the number of utility bodies coated each day and such records shall be retained for the previous five (5) year period and be available at the time of inspection.

200 DEFINITIONS

- 201 AEROSOL PAINT PRODUCT:** A coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a non-refillable can for hand-held application.
- 202 ANTIGLARE/SAFETY COATING:** A coating which minimizes light reflection for safety purposes.
- 203 CAMOUFLAGE COATING:** A coating applied on motor vehicles to conceal such vehicles from detection.
- 204 CAPTURE EFFICIENCY:** The fraction, in percent, of all VOC's generated by a process that are directed to an abatement or recovery device.

- 205 CONTROL EFFICIENCY:** The fraction, in percent, of pollution prevented by a control device and the pollution introduced to the control device.
- 206 CATALYST:** A substance whose presence initiates the reaction between chemical compounds.
- 207 COATING:** A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.
- 208 COLOR MATCH:** The ability of a repair coating to blend into an existing coating so that color difference is not visible.
- 209 ELECTROSTATIC APPLICATION:** The application of charged atomized paint droplets which are deposited by electrostatic attraction.
- 210 EXEMPT COMPOUNDS:** For the purpose of this Rule, exempt compounds are as defined in Rule 102, Definitions.
- 211 FINISHING:** The coating of incomplete vehicles, their parts and components, or mobile equipment for which the original coating was not applied from an Original Equipment Manufacturing (OEM) plant coating assembly line.
- 212 GRAMS OF VOC PER LITER OF COATING EXCLUDING WATER AND EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids. It can be calculated by the following equation:

$$G_{voc} = \frac{(W_s - W_w - W_{es})}{(V_m - V_w - V_{es})}$$

Where:

G_{voc}	=	Grams VOC per liter of coating excluding water and exempt compounds.
W_s	=	Weight of volatile compounds in grams.
W_w	=	Weight of water in grams.
W_{es}	=	Weight of exempt compounds in grams.
V_m	=	Volume of material in liters.
V_w	=	Volume of water in liters.
V_{es}	=	Volume of exempt compounds (as defined in Rule 102, <u>Definitions</u>), in liters.

- 213 GRAMS OF VOC PER LITER OF MATERIAL:** The weight of VOC per volume of material. It can be calculated by the following equation:

Install Equation Editor and double-click here to view equation.

- 214 GRAPHIC DESIGN APPLICATION:** The application of logos, letters, numbers and graphics to a painted surface, with or without the use of a template.
- 215 GROUND SUPPORT EQUIPMENT:** Vehicles used in support of aircraft activities at airports.
- 216 GROUP I VEHICLES:** Passenger cars, large/heavy duty truck cabs and chassis, light and medium duty trucks and vans, and motorcycles.
- 217 GROUP II VEHICLES:** Public transit buses and mobile equipment.
- 218 HIGH VOLUME, LOW PRESSURE (HVLP) SPRAY APPLICATOR:** Equipment used to apply coatings by means of a gun which is designed to be operated and which is operated between 0.1 and 10 psig air atomized pressure measured dynamically at the center of the air cap and at the air horns.
- 219 LACQUER:** A coating that dries primarily by solvent evaporation and is resolvable in its original solvent.
- 220 LARGE/HEAVY DUTY TRUCK:** A truck having a manufacturer's gross vehicle weight rating of over 30,000 pounds.
- 221 LIGHT AND MEDIUM DUTY TRUCK OR VAN:** A truck or van having a manufacturer's gross vehicle weight rating of 30,000 pounds or less.
- 222 METALLIC COATING TOPCOAT:** A coating which contains more than 5 g/l (0.042 lb/gal) of metal particles, as applied, where such particles are visible in the dried film.
- 223 MOBILE EQUIPMENT:** Equipment which may be drawn or is capable of being driven on rails or on a roadway, including, but not limited to, trains, railcars, truck bodies, truck trailers, camper shells, mobile cranes, bulldozers, street cleaners, golf carts and implements of husbandry.

- 224 MULTI STAGE TOPCOAT SYSTEM:** A topcoat system composed of either a basecoat-clearcoat, a basecoat-midcoat-clearcoat, or a groundcoat-basecoat-midcoat-clearcoat.

The VOC content of a basecoat-clearcoat coating system shall be calculated according to the following formula:

$$VOC_{Total} = \frac{VOC_{bc} + 2VOC_{cc}}{3}$$

The VOC content of a 3 Stage coating system shall be calculated according to the following formula:

$$VOC_{Total} = \frac{VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{4}$$

The VOC content of a 4 Stage coating system shall be calculated according to the following formula:

$$VOC_{Total} = \frac{VOC_{gc} + VOC_{bc} + VOC_{mc} + 2VOC_{cc}}{5}$$

Where:

- VOC_{Total} = The sum of the VOC content, as applied and used to determine compliance with Section 301.
- VOC_{gc} = The VOC content, as applied, of a pigmented groundcoat or tinted primer sealer.
- VOC_{bc} = The VOC content, as applied, of a pigmented basecoat.
- VOC_{mc} = The VOC content, as applied, of a translucent midcoat.
- 2VOC_{cc} = Two times the VOC content, as applied, of a transparent clearcoat.

- 225 PRECOAT:** A coating which is applied to bare metal primarily to deactivate the metal surface prior to application of a subsequent water-base primer surfacer. Effective January 1, 1997, a precoat shall be a coating that dries by oxidation or chemical polymerization. A precoat must not be a lacquer product. Purchase invoices must be retained to verify that usage of precoat is no more than 25%, by volume, of primer/surfacer usage.
- 226 PRETREATMENT WASH PRIMER:** A coating which contains a minimum of 0.5 percent acid by weight to provide surface etching, and which is applied directly to bare metal surfaces to provide corrosion resistance and topcoat adhesion.
- 227 PRIMER:** A coating applied prior to the application of a topcoat for the purpose of corrosion resistance and adhesion of the topcoat. Primer surfacer and primer sealer shall be considered a primer when applied to Group II vehicles.
- 228 PRIMER SEALER:** A coating applied for the purpose of sealing the underlying metal or coating system prior to the application of a topcoat.
- 229 PRIMER SURFACER:** A coating applied prior to the application of a topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

- 230 REDUCER:** The solvent used to thin enamel.
- 231 REFINISHING:** The coating of vehicles, their parts and components, or mobile equipment, including partial body collision repairs, for the purpose of protection or beautification and which is subsequent to the original coating applied at an Original Equipment Manufacturing (OEM) plant coating assembly line.
- 232 SPECIALTY COATING:** A unique coating containing additives which are necessary due to unusual job performance requirements. Specialty coatings include, but are not limited to, adhesion promoters, uniform finish blenders, elastomeric materials, gloss flatteners, bright metal trim repair, and anti-glare/safety coatings.
- 233 TEMPORARY PROTECTIVE COATING:** A coating applied to areas adjacent to those being painted, for the purpose of protecting those areas from overspray. The temporary protective coating is removed after primer or topcoat applications.
- 234 TOPCOAT:** A coating applied over a primer, primer system, or an original OEM finish for the purpose of protection or appearance. For the purposes of this rule, solid color and metallic topcoats are single stage applications, the VOC_{Total} of a multi stage topcoat system will determine compliance with VOC standards in Section 301.
- 235 TOUCH-UP:** The application of a coating by brush, air brush, or hand held, non-refillable aerosol cans, to repair minor surface damage and imperfections less than four square feet in area.
- 236 TRANSFER EFFICIENCY:** The ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.
- 237 UTILITY BODY:** A special purpose service compartment or unit that will be bolted, welded, or affixed onto an existing cab and chassis. The compartment may serve as storage for equipment or parts.
- 238 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least one atom of carbon except for the Exempt Compounds listed in Rule 102, Definitions.

300 STANDARDS

- 301 LIMITS:** Any person who applies coatings to Group I or II vehicles, mobile equipment, or their parts and components, shall comply with Sections 301.1 and 301.2 of this rule, as applicable.
- 301.1 Group I Vehicles: A person shall not refinish Group I Vehicles (or Group II Vehicles where color match is required), or their parts and components, using any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating as applied, excluding water and exempt compounds (as defined in Rule 102) unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an overall control efficiency (capture and control), as determined in Sections 506.4 and 506.5, of at least 85 percent and which has been approved in writing by the Air Pollution Control Officer. Pursuant to Section 302, any person seeking to utilize such abatement equipment shall submit an Operation and Maintenance Plan at least 90 days in advance of the date on which abatement equipment control is to be used in lieu of compliance with VOC content limitations. Submittal of an application for Authority to Construct per Rule 501, General Permit Requirements, will also be required.

COATING	JANUARY 1, 1996 VOC	JANUARY 1, 1997 VOC	JANUARY 1, 1998 VOC
Pretreatment Wash Primer	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)
Precoat	780 g/l (6.5 lbs/gal)	600 g/l (5.0 lbs/gal)	600 g/l (5.0 lbs/gal)
Primer/Primer Surfacer	720 g/l (6.0 lbs/gal)	340 g/l (2.8 lbs/gal)	250 g/l (2.1 lbs/gal)
Primer Sealer	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	420 g/l (3.5 lbs/gal)
Solid Color Topcoat	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	420 g/l (3.5 lbs/gal)
Metallic Topcoat	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	520 g/l (4.3 lbs/gal)
Specialty Coating	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)
Multi Stage Topcoat System	720 g/l (6.0 lbs/gal)	600 g/l (5.0 lbs/gal)	540 g/l (4.5 lbs/gal)

301.2 Group II Vehicles and Mobile Equipment: A person shall not finish or refinish Group II vehicles and equipment or their parts and components, using any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating as applied, excluding water and exempt compounds (as defined in Rule 102) unless emissions to the atmosphere are controlled to an equivalent level by air pollution abatement equipment with an overall control efficiency (capture and control), as determined in Sections 506.4 and 506.5, of at least 85 percent and which has been approved in writing by the Air Pollution Control Officer. Pursuant to Section 302, any person seeking to utilize such abatement equipment shall submit an Operation and Maintenance Plan at least 90 days in advance of the date on which abatement equipment control is to be used in lieu of compliance with VOC content limitations. Submittal of an application for Authority to Construct per Rule 501, General Permit Requirements, will also be required.

COATING	JANUARY 1, 1996 VOC	JANUARY 1, 1997 VOC	JANUARY 1, 1998 VOC
Pretreatment Wash Primer	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)	780 g/l (6.5 lbs/gal)
Precoat	780 g/l (6.5 lbs/gal)	600 g/l (5.0 lbs/gal)	600 g/l (5.0 lbs/gal)
Primer/Primer Surfacer	340 g/l (2.8 lbs/gal)	340 g/l (2.8 lbs/gal)	250 g/l (2.1 lbs/gal)
Primer Sealer	420 g/l (3.5 lbs/gal)	340 g/l (2.8 lbs/gal)	340 g/l (2.8 lbs/gal)
Topcoat	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)
Metallic Topcoat	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)
Specialty Coating	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)	840 g/l (7.0 lbs/gal)

COATING	JANUARY 1, 1996 VOC	JANUARY 1, 1997 VOC	JANUARY 1, 1998 VOC
Camouflage	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)	420 g/l (3.5 lbs/gal)

301.3 Utility Body Requirements: The standards set forth in Section 301.1 shall apply to the coating of utility bodies only when color match is required and the volume of utility bodies to be coated is 20 per day or less. If both of these conditions do not apply, the standards set forth in Section 301.2 shall apply to the coating of utility bodies.

302 OPERATION AND MAINTENANCE PLAN: Any person using air pollution abatement equipment pursuant to Section 301 shall submit an Operation and Maintenance Plan for the emissions control equipment to the Air Pollution Control Officer for approval. The Plan shall specify operation and maintenance procedures which will demonstrate continuous operation and compliance of the emissions control equipment during periods of emissions-producing operations. The Plan shall also specify which daily records must be kept to document these operations and maintenance procedures. These records shall comply with the requirements of Section 504. The Plan shall be implemented upon approval by the Air Pollution Control Officer.

303 TRANSFER EFFICIENCY: Effective January 1, 1998, for all coatings, a person shall not apply any coating to any Group I or II vehicles or mobile equipment or their parts and components unless one of the following methods is used:

303.1 Electrostatic application equipment, operated in accordance with the manufacturer's recommendations;

303.2 High Volume Low Pressure (HVLP) spray equipment, operated in accordance with the manufacturer's recommendations;

303.3 Any other equivalent coating application method which has been demonstrated to have a transfer efficiency of 65% or greater according to the requirements of Section 506.3, Determination of Transfer Efficiency, and which has been submitted to and approved by the Air Pollution Control Officer.

304 SURFACE PREPARATION AND SOLVENT LOSS MINIMIZATION: Any person using organic solvent for surface preparation and cleanup or mixing, using or disposing of coating or stripper containing organic solvent:

304.1 Shall use closed, nonabsorbent containers for the storage or disposal of cloth or paper used for solvent surface preparation and cleanup.

304.2 Shall store fresh or spent solvent, coating, catalyst, thinner, or reducer in closed containers when not in use.

304.3 Shall not, effective January 1, 1997, use organic compounds for the cleanup of spray equipment including paint lines unless an enclosed system or other system that has been approved in writing for use by the Air Pollution Control Officer and submitted to and approved by the Air Resources Board (ARB) and U.S. EPA, is used for cleanup. The system must enclose spray guns, cups, nozzles, bowls and other parts during washing, rinsing and draining procedures. Equipment used shall minimize the evaporation of organic compounds to the atmosphere.

304.4 Effective January 1, 1997, the VOC content of surface preparation solvent shall not exceed 72 g/l (0.6 lb/gal), excluding water and exempt compounds. This limit

shall not apply to surface preparation material applied from a hand-held spray bottle for the removal of road tar, engine oil, grease, overspray, or adhesives, from the vehicle, or used to clean plastic parts. The VOC content of surface preparation solvent used to remove road tar, engine oil, grease, overspray, or adhesives, from the vehicle, or used to clean plastic parts shall not exceed 780 g/l (6.5 lbs/gal), excluding water and exempt compounds.

- 305 SPECIALTY COATING:** Use of all specialty coatings except antiglare/safety coatings shall not exceed 5.0% of all coatings applied, on a monthly basis.
- 306 TEMPORARY PROTECTIVE COATING:** A person shall not use any temporary protective coating with a VOC content in excess of 60 g/l (0.5 lbs/gal), of material.
- 307 PRECOAT LIMITATION:** A person shall not use precoat in excess of 25%, by volume, of the amount of primer surfacer used, on a monthly basis.
- 308 HVLP MARKING:** Effective April 3, 1995, a person shall not sell or offer for sale for use within the District any HVLP gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate within the parameters specified in Section 218.

400 ADMINISTRATIVE REQUIREMENTS

- 401 PROHIBITION OF SPECIFICATION:** No person shall solicit or require for use or specify the application of a coating on a Group I or II vehicle, mobile equipment, or part or component thereof if such use or application results in a violation of the provisions of this rule. The prohibition of this Section will apply to all written or oral contracts under the terms of which any coating which is subject to the provisions of this rule is to be applied to any motor vehicle, mobile equipment, or part or component at any physical location within the District.
- 402 PROHIBITION OF SALE:** A person shall not offer for sale or sell within the District any coating if such product is prohibited by any of the provisions of this rule. The prohibition of this section shall apply to the sale of any coating which will be applied at any physical location within the jurisdiction of the local air pollution control agencies. This requirement shall not apply to the application of coatings where emissions to the atmosphere are controlled to an equivalent level of this rule by air pollution abatement equipment with an overall efficiency (capture and control) as determined in Sections 506.4 and 506.5, of at least 85 percent and which has been approved in writing by the Air Pollution Control Officer.
- 403 VOC COMPLIANCE STATEMENT REQUIREMENT:** The manufacturer of coatings subject to this rule shall include a designation of VOC (as defined in Section 238 of this rule) as supplied and as applied, expressed in grams per liter (or pounds per gallon), excluding water and exempt compounds, on data sheets. The manufacturer of temporary protective coatings shall indicate the VOC designation as grams per liter (or pounds per gallon) of material.
- 404 CALCULATION FOR VOC MASS EMISSION RATE AND CONTROL EFFICIENCY:** The VOC mass emission rate shall be calculated both upstream and downstream of the emissions control device based on the respective VOC mass concentration and volumetric flowrate, pursuant to Section 506.4 and the following equation:

$$M = (Q)(C)(60 \text{ min/hr})$$

Where: M = VOC mass emission rate, in lb/hr.

Q = The volumetric flowrate of the exhaust stack, in scfm.

C = The VOC mass concentration, in lb/scf, as measured by EPA

The percent control efficiency is calculated as follows:

$$\% \text{ CE} = [(MU - MD) \div MU] \times 100$$

Where: CE = Control efficiency.

MU = The upstream VOC mass emission rate, in lb/hr.

MD = The downstream VOC mass emission rate, in lb/hr.

500 MONITORING AND RECORDS

501 USER COATING RECORDS: Operators of facilities subject to this Rule shall maintain a current listing of all as-applied VOC containing materials in use at their facility. This listing shall include:

- a. material name and manufacturer identification;
- b. application method;
- c. material type, group number (I or II) and specific use instructions (such as "precoat must be applied to bare metal and followed with a compliant primer");
- d. specific mixing instructions;
- e. maximum VOC content of coatings as applied (including reducing solvents);

Current coating manufacturing specification sheets, material data sheets or current air quality data sheets, which list the VOC content of each material, shall be available for review on site. A record of the total facility VOC emissions shall be maintained on a monthly basis. These records shall be summarized for the previous calendar year and submitted to the District by June 1. Such records shall be retained and available for inspection by the District for the previous three (3) year period, except for sources subject to Rule 507, Federal Operating Permit Program, which shall retain records for five (5) years.

502 HIGH VOC EMISSIONS: If VOC emissions for any calendar year exceed 10,000 pounds, record-keeping requirements in addition to those listed in Section 501, will be required per Rule 511, Potential to Emit.

503 PRECOAT LIMITATION RECORDS: Any person using precoat shall verify compliance with Section 307 by retaining purchase invoices and records of applied volume of precoat on a monthly basis. Such records shall be retained for the previous three (3) year period and made available for inspection upon request.

504 EMISSION CONTROL EQUIPMENT RECORDS: Any person using emissions control equipment pursuant to Section 302 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan in Section 302 on a daily basis, to include such records as required by Sections 501, 502, and 503.

505 SALES RECORDS: Any person within the District selling coatings subject to this Rule shall make receipts of customer purchases available for inspection upon request. Cash sales shall be recorded including the customer's name and business card. This information can be submitted to the District in electronic data form.

506 TEST METHODS:

- 506.1 Analysis of Samples: Samples of volatile organic compounds as specified in Sections 301.1, and 301.2, of this rule shall be analyzed as prescribed by EPA Reference Method 24.
- 506.2 Determination of Emissions: Emissions of volatile organic compounds as specified in Section 301.1, and 301.2, of this rule shall be measured as prescribed by EPA Reference Method 25.
- 506.3 Determination of Transfer Efficiency: Transfer efficiency as required by Section 302, of this rule shall be determined in accordance with the South Coast Air Quality Management District (SCAQMD) test method for determining transfer efficiency entitled, "Spray Equipment Transfer Efficiency (TE) Test Procedure for Equipment User, May 24, 1989," or other equivalent method which has been approved in writing by the Air Pollution Control Officer and submitted to and approved by U.S. EPA.
- 506.4 Determination of Control Efficiency: Control efficiency as required by Sections 301.1 and 301.2 of this rule, shall be determined in accordance with EPA Method 18, 25, 25A, EPA Method 2 or 2C (whichever is applicable), and Section 404.
- 506.5 Determination of Capture Efficiency: Capture efficiency as required by Section 301.1, and 301.2, of this rule shall be determined by and reported in accordance with 40 CFR 52.741, Appendix B, "VOC Measurement Techniques for Capture Efficiency".
- 506.6 Determination of Metallic Particles in Metallic Coating Topcoat: Metallic particles in metallic coating topcoat as defined, in Section 222, of this rule shall be determined by the South Coast Air Quality Management District (SCAQMD) Method 311 Analysis of Percent Metal in Metallic Coatings by Spectrographic Method contained in the SCAQMD "Laboratory Method of Analysis for Enforcement Samples" manual.
- 506.7 Determination of Acid Concentration in Pretreatment Wash Primer: Acid concentration in pretreatment wash primer as defined in Section 226, of this rule shall be determined by ASTM Test Method D-1613-85 (modified).

RULE 235 ADHESIVES

Adopted 06-08-95
(Amended 04-10-97)

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100 GENERAL

101 PURPOSE: To limit emissions of volatile organic compounds (VOCs) from the application of commercial and industrial adhesive or sealant products, and from related solvents and strippers.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Business Category: This rule is applicable to any person who:

102.2.1 Manufactures, sells, offers for sale, or uses an adhesive or sealant product; or

102.2.2 Uses a surface preparation solvent, a cleanup solvent, or a stripper; or

102.2.3 Supplies an adhesive or sealant product to the person who applies the product (i.e., the product user); or

102.2.4 Solicits, requires the use of, or specifies the application of any adhesive or sealant product, surface preparation solvent, cleanup solvent or stripper, whether or not such material complies with this rule.

103 EXEMPTIONS

103.1 Exemption, Consumer Adhesives: Adhesives that are subject to Article 2, Consumer Products, Sections 94507-94517, Title 17, California Code of Regulations, are exempt from all provisions of this rule.

103.2 Exemption, Low VOC Products: Any adhesive or sealant that contains less than 20 grams/liter (0.17 pounds/gallon) of VOC, less water and exempt compounds, as applied, is exempt from all provisions of this rule.

103.3 Exemption, Small Container: The use of adhesive or sealant products sold or supplied in non-reusable containers that are designed to hold no more than 8 fluid ounces of adhesive or sealant products, is exempt from all provisions of this rule.

103.4 Exemption, Operations Subject To Other District Rules: Operations subject to the following District rule are exempt from all provisions of this rule:

103.4.1 Rule 239, Graphic Arts Operations

103.5 Exemption From Requirements of Other District Rules: Any adhesive or cleaning solvent subject to the VOC limitations of this rule is exempt from the requirements of Rule 219, Organic Solvents.

103.6 Partial Exemption, Specific Businesses: The following business operations are exempt from the VOC limits of Table 3 of Section 302 of this rule:

103.6.1 Testing and evaluation of adhesive or sealant products in any research and development or analytical laboratories.

- 103.6.2 Solvent welding operations used in the manufacturing of medical devices.
- 103.6.3 Tire repair operations, provided the label on the adhesive used states "For Tire Repair Only".
- 103.6.4 Plaque laminating operations where adhesives are used to bond a clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. Any person seeking to claim this exemption shall notify the APCO in writing that a complying adhesive is not available.
- 103.6.5 Manufacturing operations of the following products: diving suits, rubber fuel bladders, inflatable boats, life preservers or other products designed for immersion in liquids. The adhesive products used by these operations must be labeled "For the bonding of immersible products only."
- 103.7 Partial Exemption, Contact Adhesives, VOC Standards: A contact adhesive used and labeled exclusively for any of the following applications, is exempt from the VOC content standard for Acontact adhesive@ in Table 2 of Section 302:
 - 103.7.1 Single-ply roof membrane installation/repair;
 - 103.7.2 Bonding of immersible products;
 - 103.7.3 Bonding of flexible vinyl to flexible vinyl;
 - 103.7.4 Bonding of plastic, rubber, or unprimed metal to plastic, rubber, or unprimed metal.
- 103.8 Partial Exemption, Contact Adhesives, Small containers, VOC Standards: Until December 1, 1999, Contact adhesives subject to the Consumer Product Safety Commission regulations in Title 16, Code of Federal Regulations, Part 1302 and sold in packages that contain one gallon, (128 fluid ounces) or less, are exempt from the requirements of Section 302.
- 103.9 Partial Exemption, Low Volume, VOC Standards: Any person using adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers is exempt from the VOC content standards of this rule, provided the total combined volume of these materials used at any one stationary source in any calendar year, does not exceed 55 gallons. Commercial or industrial users of such materials that do not exceed this low volume threshold, shall comply with all other provisions of this rule, including Section 501, RECORD-KEEPING.
- 103.10 Partial Exemption, Aerosol Adhesives - VOC Standards: Aerosol Adhesives regulated by the California Air Resources Board, are exempt from the VOC standards of this rule, Sections 302 through 306. This partial exemption does not include Aerosol Adhesive Primers, which are subject to the VOC provisions in Section 303.
- 103.11 Partial Exemption, Cleanup Solvents:
 - 103.11.1 Aerosol Cleanup Solvents: The use of 160 fluid ounces or less per day per stationary source of aerosol cleanup solvents is exempt from the requirements of Section 305.
 - 103.11.2 Equipment Cleanup Medical: Materials used to clean adhesives

application equipment, when such equipment is used in the manufacturing of transdermal drug delivery products, and fewer than 3 gallons per day of ethyl acetate, averaged over a 30 calendar day period, are used as the equipment cleaning solvent, are exempt from the requirements of Section 305.

103.12 Partial Exemption, Prohibition of Sale: The following materials, persons and businesses are exempt from the requirements of Section 401, Prohibition of Sale:

- 103.12.1 The adhesives in Table 3 of Section 302 and the contact adhesives in Section 103.7.
- 103.12.2 The contact adhesives in Section 103.8, until December 1, 1999.
- 103.12.3 A person who sells an adhesive or sealant product to a purchaser who has installed an air pollution control system pursuant to Section 307, provided that:
 - a. Prior to each sale the seller receives a letter, signed by the purchaser, stating that: the purchaser has installed an air pollution control system, approved by the Air Pollution Control Officer, for the purpose identified, and that emissions from applying the adhesive or sealant product will be controlled by that system, pursuant to Section 307; and:
 - b. The seller shall retain the purchaser's signed letter for three years from the date of receipt and shall make the letter available, on request, to the Air Pollution Control Officer.
- 103.12.4 Any supplier or seller of an adhesive or sealant product shipped outside the District for use outside the District.
- 103.12.5 Any manufacturer of an adhesive or sealant product if: the manufacturer has provided the VOC information required by Section 403, and the product was not sold directly to a user, or to a sales outlet located in the District; or the product was sold to an independent distributor that is not a subsidiary of, or under the direct control of, the manufacturer.

104 SEVERABILITY: If any section, subsection, sentence, clause, phrase, or portion of this rule is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions thereof.

200 DEFINITIONS

201 ACRYLONITRILE-BUTADIENE-STYRENE (ABS) WELDING ADHESIVE: Any adhesive intended by the manufacturer to weld ABS pipe. ABS pipe is made by reacting monomers of acrylonitrile, butadiene, and styrene and is normally identified with an AABS® marking.

202 ADHESIVE: Any substance that is used to bond one surface to another surface by

attachment.

- 203 ADHESIVE OR SEALANT PRODUCT:** Any adhesive, adhesive primer, aerosol adhesive, aerosol adhesive primer, sealant, or sealant primer, as sold by the manufacturer or as applied.
- 204 ADHESIVE PRIMER:** A coating applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.
- 205 AEROSOL ADHESIVE:** An adhesive consisting of a mixture of rubber, resins, liquid and/or gaseous solvents, and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- 206 AEROSOL ADHESIVE PRIMER:** A primer used exclusively to provide a bonding surface on substrates for subsequent application of aerosol adhesives. It consists of a mixture of liquid and/or gaseous materials and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol primer materials in a finely divided spray when a valve on the container is depressed.
- 207 AEROSOL CLEANING SOLVENT:** A material used as a surface preparation solvent, a cleanup solvent, or as a stripper and consisting of liquid and/or gaseous solvent and propellants packaged in a hand-held, pressurized, non-refillable container. The container expels pressurized aerosol materials in a finely divided spray when a valve on the container is depressed.
- 208 AFFECTED POLLUTANT:** Volatile organic compounds (VOC) as defined in Section 269.
- 209 APPLICATION EQUIPMENT:** A device such as a spray gun, pot, hose, brush, roller, electrostatic sprayer, non-propellant spray bottle, or squeegee, used to apply an adhesive or sealant product, a surface preparation solvent, a cleanup solvent, or a stripper.
- 210 ARCHITECTURAL SEALANT/PRIMER:** Any sealant or sealant primer intended by the manufacturer to be applied to stationary structures, including mobile homes, and their appurtenances. Appurtenances to an architectural structure include, but are not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain gutters and downspouts, and windows.
- 211 CAPTURE EFFICIENCY:** Expressed in percent, capture efficiency, measured per Section 503.6, is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from adhesive/sealant operations, both measured simultaneously, and calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC emitted from the operation

- 212 CERAMIC TILE INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of ceramic tiles.
- 213 CHLORINATED POLYVINYL CHLORIDE (CPVC) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld CPVC plastic pipe.
- 214 CLEANUP SOLVENT:** A VOC-containing material used to:
- 214.1 Remove a loosely held uncured (i.e., not dry to the touch) adhesive or sealant from a substrate, or
 - 214.2 Clean equipment that was used to apply an adhesive or sealant product.
- 215 CLOSED CONTAINER:** A covered receptacle which has no visible gaps where the cover and the main body of the receptacle meet.
- 216 COMPUTER DISKETTE JACKET MANUFACTURING ADHESIVE:** Any adhesive intended by the manufacturer to bond the fold-over flaps to the body of a vinyl computer diskette jacket.
- 217 CONSUMER ADHESIVE:** Any adhesive subject to Title 17 of the California Code of Regulations, Article 2, Consumer Products, beginning at Section 94507 and as amended from time to time. A Consumer Adhesive does not include:
- 217.1 Units of product, less packaging, that weigh more than one pound or have a volume of more than 16 fluid ounces.
 - 217.2 Sealants or caulking compounds.
 - 217.3 Plastic cement welding adhesive and plastic cement welding adhesive primer.
- 218 CONTACT ADHESIVE:** An adhesive that forms an instantaneous bond that cannot be repositioned when substrates, on which the adhesive is applied and allowed to dry, are brought together using momentary pressure.
- 219 CONTROL DEVICE:** Equipment that is utilized as part of an emission control system, and which destroys, absorbs or otherwise eliminates or reduces the emission of Volatile Organic Compounds from adhesive/sealant operations.
- 220 CONTROL EFFICIENCY:** Expressed in percent, control efficiency, measured per Section 503.5, is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously. Control efficiency is calculated by the following equation:

$$\text{Control Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

- 221 COVE BASE INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of cove base (or wall base), which is generally made of vinyl or rubber, onto a wall or vertical surface at floor level.
- 222 CURED:** Dry to the touch.
- 223 DRYWALL INSTALLATION:** The installation of gypsum drywall to studs or solid surfaces.
- 224 ENCLOSED GUN CLEANER:**
- 224.1 A device that is used for the cleaning of spray guns, pots, cups, and hoses, that has a closed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 224.2 A device that is used for the cleaning of spray guns, pots, cups, and hoses, that has a closed solvent container, uses non-atomized solvent flow to flush the spray equipment, and collects and returns the discharged solvent to the closed container.
- 225 EXEMPT COMPOUNDS:** For the purposes of this rule, "Exempt Compounds" are as defined in Rule 102, Definitions.
- 226 FIBERGLASS:** A fiber made of fine filaments of glass that is similar in appearance to wool or cotton fiber.
- 227 FLEXIBLE VINYL:** A nonrigid polyvinyl chloride plastic with at least five percent, by weight, of plasticizer content, as determined per Section 503.8.
- 228 HAND APPLICATION METHODS:** The application of an adhesive or sealant product by manually held equipment. Such equipment includes: paint brushes, hand rollers, trowels, spatulas, daubers, rags, sponges, and mechanically or pneumatically driven syringes that do not atomize the applied products.
- 229 HIGH-VOLUME LOW-PRESSURE (HVLP) APPLICATION EQUIPMENT:** Equipment used to apply coating by means of a spray gun which is designed to be operated, and which is operated between 0.1 and 10.0 pounds per square inch gauge (psig) air pressure, measured dynamically at the center of the air cap and at the air horns.
- 230 INDOOR FLOOR COVERING INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of wood flooring, carpet, carpet pads, rubber flooring, resilient tile, vinyl tile, vinyl backed carpet, resilient sheet and roll, or artificial grass. Such installed materials are in an enclosure and are not exposed to ambient weather conditions during normal use. Indoor floor covering installation does not include ceramic tile installation or subfloor installation.
- 231 KEY SYSTEM OPERATING PARAMETER:** A variable that is critical to the operation of an emission control system and that ensures both operation of the system within the system manufacturer's specifications, and compliance with the overall system efficiency standard required by Section 307. Such variables may include, but are not limited to, hours of operation, temperature, flow rate, and pressure.
- 232 LEAK:** A visible liquid solvent loss or a solvent vapor (mist) loss from unintended openings in a container.
- 233 LOW-SOLIDS MATERIAL:** Any adhesive or sealant product, surface preparation solvent,

cleanup solvent, or stripper containing no more than 120 grams of solids per liter (1.0 pound of solids per gallon) of product.

- 234 LOW-VOLUME LOW-PRESSURE (LVLP) APPLICATION EQUIPMENT:** Spray coating application equipment with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume less than 15.5 cubic feet per minute (cfm) per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.
- 235 MARINE DECK SEALANT/SEALANT PRIMER:** Any sealant or sealant primer intended by the manufacturer to seal gaps on wooden marine decks.
- 236 METAL TO URETHANE/RUBBER MOLDING OR CASTING ADHESIVE:** Any adhesive intended by the manufacturer to bond metal to high-density or elastomeric urethane or molded rubber materials, in heater molding or casting processes, to fabricate products such as rollers for computer printers or other paper handling equipment.
- 237 MULTIPURPOSE CONSTRUCTION ADHESIVE:** Any adhesive intended by the manufacturer for the installation or repair of various construction materials, including, but not limited to, drywall, subfloor, panel, fiberglass reinforced plastic, ceiling tile, and acoustical tile.
- 238 NON-MEMBRANE ROOF INSTALLATION/REPAIR ADHESIVE/SEALANT:** Any adhesive or sealant intended by the manufacturer for the installation or repair of non-membrane roofs, but is not intended for the installation of prefabricated single-ply roof membrane. With regard to non-membrane roof installation/repair adhesives, this category includes plastic or asphalt roof cement, asphalt roof coatings, and cold application cement.
- 239 OUTDOOR FLOOR COVERING INSTALLATION ADHESIVE:** Any adhesive intended by the manufacturer for the installation of floor covering that is not in an enclosure and is exposed to ambient weather conditions during normal use. Outdoor floor covering installation does not include ceramic tile installation or subfloor installation.
- 240 PANEL INSTALLATION:** The installation of plywood, pre-decorated hardboard, tile board, fiberglass reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces.
- 241 PLASTIC:** A synthetic material chemically formed by the polymerization of organic (carbon-based) substances.
- 242 PLASTIC CEMENT WELDING ADHESIVE:** Any adhesive made of resins and solvents that is formulated to dissolve the surfaces of plastic to form a bond between mating surfaces.
- 243 PLASTIC CEMENT WELDING ADHESIVE PRIMER:** Any primer intended by the manufacturer to prepare plastic substrates prior to bonding or welding.
- 244 POLYVINYL CHLORIDE (PVC) WELDING ADHESIVE:** Any adhesive intended by the manufacturer to weld PVC plastic pipe.
- 245 POLYVINYL CHLORIDE (PVC) WELDING SEALANT:** A sealant designed to adhere to polyvinyl chloride (PVC) by dissolving its surface and to fill or seal gaps between PVC surfaces or between PVC and other surfaces.
- 246 POROUS MATERIAL:** A material whose surface is permeable to liquids; such materials include, but are not limited to, foam, paper, corrugated paperboard, stone, and wood.
- 247 PROPELLANT:** A fluid under pressure that expels the contents of a container when a valve

is opened.

- 248 ROADWAY SEALANT:** Any sealant intended by the manufacturer to be applied to public streets, highways, and related surfaces such as curbs, berms, driveways, and parking lots.
- 249 RUBBER:** Any natural or manmade rubber substrate, including, but not limited to: styrene-butadiene rubber, polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene, and ethylene propylene diene terpolymer.
- 250 RUBBER FLOORING:** Flooring material in which both the back and the top surface are made of synthetic rubber, and which may be in sheet or tile form.
- 251 SEALANT:** Any material with adhesive properties that is applied as a rope or bead and that is formulated for use primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealants include caulks. Sealants do not include sealers that are applied as continuous coatings.
- 252 SEALANT PRIMER:** Any material intended by the manufacturer for application to a substrate, prior to the application of a sealant, to enhance the bonding surface.
- 253 SINGLE-PLY ROOF MEMBRANE:** A single sheet of rubber, normally ethylene-propylene diene polymer, that is applied in a single layer to a building roof (normally a flat roof).
- 254 SOLID MATERIAL:** The nonvolatile portion of an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper that remains after heating a sample of the product at 110EC for one hour.
- 255 SOLVENT WELDING:** The softening of the surfaces of two substrates by wetting them with a solvent and/or adhesive, and joining them together with a chemical and/or physical reaction(s) to form a fused union.
- 256 STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission. This includes all pollutant-emitting activities which:
- 256.1 Belong to the same industrial grouping, and
 - 256.2 Are located on one property or on two or more contiguous properties, and
 - 256.3 Are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- Pollutant-emitting activities shall be considered as part of the same industrial grouping if they:
- 256.4 Belong to the same two-digit standard industrial classification code, or
 - 256.5 Are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 257 STRIPPER:** A liquid used to remove cured adhesives and/or cured sealants.
- 258 STRUCTURAL GLAZING ADHESIVE:** Any adhesive intended by the manufacturer to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.
- 259 SUBFLOOR INSTALLATION:** The installation of subflooring material, typically plywood, over flooring joists. Subfloor installation includes the construction of any load bearing

joints in joists or trusses. Subflooring is covered by a finished surface material.

- 260 SUBSTRATE:** The material onto which an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper is applied.
- 261 SURFACE PREPARATION SOLVENT:** Any VOC-containing material used to remove contaminants such as dust, soil, oil, grease, etc., from a substrate prior to the application of an adhesive or sealant product.
- 262 THIN METAL LAMINATING ADHESIVE:** Any adhesive intended by the manufacturer to bond multiple layers of metal to metal or metal to plastic in which the thickness of the bond line(s) is less than 0.025 mils (0.00025 inches).
- 263 TIRE REPAIR:** To mend a hole, tear, fissure, blemish, or defect in a tire casing by grinding and/or gouging, applying adhesive, and attaching replacement rubber.
- 264 TIRE RETREAD ADHESIVE:** An adhesive applied to the back of precured tread rubber and to the casing and cushion rubber. Tire retread adhesive may also be used to seal buffed tire casings to prevent oxidation while the tire is being prepared for a new tread.
- 265 TRAFFIC MARKING TAPE ADHESIVE PRIMER:** An adhesive primer intended by the manufacturer to be applied to surfaces prior to the installation of traffic marking tape. Traffic marking tape is a preformed reflective film intended by the manufacturer to be applied to public streets, highways, and other surfaces including, but not limited to, curbs, berms, driveways, and parking lots. It is not one of the **A**Traffic Coatings included in and defined in Rule 218, Architectural Coatings.
- 266 VOC COMPOSITE PARTIAL PRESSURE:** VOC composite partial pressure is the sum of the partial vapor pressures of the compounds defined as VOCs, and shall be calculated by the following equation

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i) / MW_i}{\frac{W_w}{MW_w} + \sum_{i=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

- Pp_c = VOC composite partial pressure at 20°C, in mm mercury.
- W_i = Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-91.
- W_w = Weight of water, in grams as determined by ASTM D 3792-86.
- W_e = Weight of the **A**th exempt compound, in grams, as determined by ASTM E 260-91.
- Mw_i = Molecular weight of the **A**th VOC compound, in grams per g-mole, as given in chemical reference literature.
- Mw_w = Molecular weight of water, 18 grams per g-mole.
- Mw_e = Molecular weight of the **A**th exempt compound, in grams per g-mole, as given in chemical reference literature.
- Vp_i = Vapor pressure of the **A**th VOC compound at 20°C, in mm Hg, as determined by Section 502.10 of this rule.

- 267 VOC CONTENT PER LITER OF MATERIAL:** The weight (in grams) of VOC per volume (in

liters) of adhesive or sealant product is expressed as $\frac{\text{grams of VOC}}{\text{liter of material}}$ and shall be calculated using the following formula:

$$\text{Grams of VOC per liter of material} = \frac{W_{\text{vc}} - W_{\text{w}} - W_{\text{ec}}}{V_{\text{m}}}$$

Where:

- W_{vc} = Weight of all volatile compounds, in grams.
- W_{w} = Weight of water, in grams.
- W_{ec} = Weight of exempt compounds identified in Section 225, in grams.
- V_{m} = Volume of material, as supplied by the manufacturer, in liters.

268 VOC CONTENT PER VOLUME OF PRODUCT, LESS WATER AND EXEMPT COMPOUNDS:

The weight (in grams) of VOC per combined volume (in liters) of VOC plus solid materials in an adhesive or sealant product is expressed as $\frac{\text{grams of VOC}}{\text{liter of product, less water and exempt compounds}}$ and shall be calculated using the following equation:

$$\text{Grams of VOC per liter of product, less water and less exempt compounds} = \frac{W_{\text{vc}} - W_{\text{w}} - W_{\text{ec}}}{V_{\text{m}} - V_{\text{w}} - V_{\text{ec}}}$$

Where:

- W_{vc} = Weight of all volatile compounds, in grams.
- W_{w} = Weight of water, in grams.
- W_{ec} = Weight of exempt compounds identified in Section 225, in grams.
- V_{m} = Volume of material, as supplied by the manufacturer, in liters.
- V_{w} = Volume of water, in liters.
- V_{ec} = Volume of exempt compounds identified in Section 225, in liters.

269 VOC PERCENT OF MATERIAL BY WEIGHT: The percent of VOC by weight is the ratio of the weight of the VOC to the weight of the aerosol adhesive primer as supplied by the manufacturer, expressed as $\frac{\text{percent of VOC by weight}}$, and shall be calculated using the following formula:

$$\text{Percent of VOC by weight} = \frac{W_{\text{voc}}}{W_{\text{p}}} \times 100$$

Where: W_{voc} = Weight of VOCs in grams.

W_{p} = Weight of the aerosol adhesive primer, as supplied by the manufacturer, in grams.

270 VOLATILE ORGANIC COMPOUND (VOC): Any chemical compound containing at least one atom of carbon, except for the exempt compounds listed in Rule 102, Definitions.

271 WATERPROOF RESORCINOL GLUE: A two-part resorcinol resin based adhesive designed for applications where the bond line must be resistant to conditions of continuous immersion in fresh or salt water.

272 WIPE CLEANING: The method of cleaning a surface by physically rubbing it with a material such as a rag, paper, abrasive pad, brush, or a cotton swab moistened with a solvent.

273 WOOD FLOORING: A wood floor surface, which may be in the form of parquet tiles, planks, or strip-wood.

300 STANDARDS

301 MATERIAL APPLICATION METHODS:

301.1 A person shall not use any methods to apply any adhesive or sealant product except the following:

- a. Hand application.
- b. Dip coat.
- c. Flow coat.
- d. Brush or roll coat.
- e. Electrodeposition.
- f. Electrostatic spray.
- g. High-volume low-pressure (HVLP) application equipment.
- h. Low-volume low-pressure (LVLP) application equipment.
- i. Aerosol cans.
- j. airless sprayer (For applying contact adhesives, only)
- k. air-assisted airless sprayer (For applying contact adhesives, only)
- l. air-atomized sprayer (For applying contact adhesives, only)
- m. Any other equivalent method approved in writing by the Air Pollution Control Officer and submitted to and approved by the United States Environmental Protection Agency.

301.2 A person shall not use any methods to apply any surface preparation solvent, cleanup solvent, or stripper except the following:

- a. Wipe cleaning.
- b. Non-propellant spray bottles or containers.
- c. An enclosed gun cleaner as defined by Section 224.
- d. Soaking application equipment parts in a closed container.

(STANDARDS continues on the next page)

302 VOC CONTENT LIMITS, ADHESIVES/ADHESIVE PRIMERS: Except as provided in Section 306, a person shall not apply an adhesive or adhesive primer that exceeds the VOC content limit, as applied (as determined per Section 268), in the following three tables:

TABLE 302 - 1 VOC CONTENT FOR ADHESIVES/ADHESIVE PRIMERS		
Type of Adhesive/Adhesive Primer	Prior to December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds	Effective December 1, 1998 VOC Content gm/liter (lb/gal) less water and exempt compounds
ABS Welding Adhesive	400 (3.3)	400 (3.3)
Automotive Glass Adhesive Primer	700 (5.7)	700 (5.7)
Ceramic Tile Installation Adhesive	150 (1.2)	130 (1.1)
Computer Diskette Jacket Mfg. Adhesive	850 (6.9)	850 (6.9)
Cove Base Installation Adhesive	200 (1.6)	150 (1.2)
CPVC Welding Adhesive	490 (4.0)	490 (4.0)
Indoor Floor Covering Installation Adhesive	150 (1.2)	150 (1.2)
Metal to Urethane/Rubber Molding or Casting Adhesive	850 (6.9)	250 (2.0)
Multipurpose Construction Adhesive	200 (1.6)	200 (1.6)
Non-Membrane Roof Install./Repr. Adhes	300 (2.5)	300 (2.5)
Outdoor Floor Covering Install. Adhesive	250 (2.0)	250 (2.0)

Plastic Cement Welding Adhesive Primer	650 (5.3)	650 (5.3)
PVC Welding Adhesive	510 (4.2)	510 (4.2)
Single-Ply Roof Membrane Installation/Repair Adhesive	650 (5.3)	250 (2.0)
Structural Glazing Adhesive	100 (0.8)	100 (0.8)
Thin Metal Laminating Adhesive	780 (6.4)	250 (2.0)
Tire Retread Adhesive	100 (0.8)	100 (0.8)
Traffic Marking Tape Adhesive Primer	550 (4.5)	150 (1.2)
Waterproof Resorcinol Glue	170 (1.4)	170 (1.4)
Other Plastic Cement Welding Adhesive	450 (3.7)	450 (3.7)
Other Adhesive Primer	250 (2.0)	250 (2.0)

**TABLE 302 - 2
VOC CONTENT FOR CONTACT ADHESIVES**

Type of Product	<u>Prior to December 1, 1999</u>	<u>Effective December 1, 1999</u>
	VOC Content gm/liter (lb/gal) less water and exempt compounds	VOC Content gm/liter (lb/gal) less water and exempt compounds
Contact Adhesive	540 (4.4)	200 (1.6)

**TABLE 302 - 3
VOC CONTENT FOR APPLICATION OF OTHER ADHESIVES ONTO SPECIFIC
SUBSTRATES**

(Pertains only to Adhesives Other Than those in Tables 302-1, 302-2 and 303)

Note: If two different types of substrates are to be bonded together and if the applicable VOC content limits in this table are not the same for each substrate, the higher of the two limits shall apply, unless specified otherwise.

Adhesive Applications Onto Substrates	<u>Prior to December 1, 1998</u>	<u>Effective December 1, 1998</u>
	VOC Content gm/liter (lb/gal) less water and exempt compounds	VOC Content gm/liter (lb/gal) less water and exempt compounds
Adhesive Applied in Bonding:		

Flexible Vinyl to Flexible Vinyl	660 (5.4)	250 (2.0)
Adhesive Applied in Bonding: Flexible Vinyl to Any Other Substrate	250 (2.0)	250 (2.0)
Adhesive Applied to: Fiberglass	200 (1.6)	200 (1.6)
Adhesive Applied to: Metal	30 (0.2)	30 (0.2)
Adhesive Applied to: Plastic Foam	120 (1.0)	120 (1.0)
Adhesive Applied to: Porous Material (e.g., Wood (but not a Plastic), and Plastic Foam)	150 (1.2)	120 (1.0)
Adhesive Applied to: Rubber	650 (5.3)	250 (2.0)
Adhesive Applied to: Other Substrates	250 (2.0)	250 (2.0)

- 303 VOC CONTENT LIMITS, AEROSOL ADHESIVE PRIMERS:** A person shall not apply any aerosol adhesive primer if the VOC content, including the propellant, exceeds the percentage value in the following table:

TABLE 303 MAXIMUM VOC CONTENT PERCENTAGES FOR AEROSOL ADHESIVE PRIMERS (Percent of VOC by Weight Calculated Pursuant to Section 269)	
Type of Aerosol	VOC Content Limit
Aerosol Adhesive Primer	75%

- 304 VOC CONTENT LIMITS SEALANTS/SEALANT PRIMERS:** Except as provided in Section 306, a person shall not apply a sealant or sealant primer exceeding the VOC content, as applied (as determined per Section 268), in the following table:

TABLE 304 VOC CONTENT FOR SEALANTS AND SEALANT PRIMERS		
Type of Sealant/Sealant Primer	<u>Prior to December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds	<u>Effective December 1, 1998</u> VOC Content gm/liter (lb/gal) less water and exempt compounds

Architectural Sealant	250 (2.0)	250 (2.0)
Marine Deck Sealant	760 (6.2)	760 (6.2)
Marine Deck Sealant Primer	760 (6.2)	760 (6.2)
Non-membrane Roof Installation/Repair Sealant	300 (2.5)	300 (2.5)
Non-Porous Architectural Sealant Primer	250 (2.0)	250 (2.0)
Porous architectural sealant primer	775 (6.3)	775 (6.3)
PVC Welding Sealant	480 (3.9)	480 (3.9)
Roadway Sealant	250 (2.0)	250 (2.0)
Single-Ply Roof Membrane Sealant	450 (3.7)	450 (3.7)
Other Sealant	420 (3.4)	420 (3.4)
Other Sealant Primer	750 (6.1)	750 (6.1)

305 VOC CONTENT LIMITS SURFACE PREPARATION, CLEANUP, AND STRIPPER SOLVENTS:

Except as provided in Sections 103.11, 306 and 307, and relative to the application of an adhesive or sealant product, a person shall not use a surface preparation solvent, a cleanup solvent, or a solvent used as a stripper exceeding the VOC content limit standard, as applied (as determined per either Section 266 or Section 268, as applicable), in the following table:

TABLE 305 VOC CONTENT OF SURFACE PREPARATION, CLEANUP, AND STRIPPER SOLVENTS		
Note: Where VOC limits are shown as both grams/liter and composite vapor pressure, either may be used as the content limit for the specific application shown.		
Adhesive or Sealant Product Activity For Which the Solvent Is Used	VOC Content gm/liter (lb/gal) less water and exempt compounds	VOC Composite Partial Pressure Millimeters of Mercury at 20EC (68EF)
Substrate Preparation Activity		
Single-Ply Roof Membrane		

Installation/Repair	C	45
Electronic Components	900 (7.3)	33
Medical Devices	900 (7.3)	33
Other Substrates	70 (0.6)	C
Cleanup Activity		
Cleaning a Spray Gun in an Enclosed Gun Cleaner	C	less than 45
Soaking Application Equipment in a Closed Container	C	9.5
Application Equipment - No Closed Container, No Enclosed Gun Cleaner	70 (0.6)	C
Equipment Other Than Adhesive or Sealant Product Application Equipment	C	less than 45
Solvent Stripping Activity		
Adhesive or Sealant Products on Wood Substrates	less than 350	2
Adhesive or Sealant Products on Substrates Other Than Wood	C	9.5

306 VOC CONTENT LIMITS LOW-SOLIDS MATERIALS: For any low-solids material listed in the tables of Sections 302 and 304, the VOC content standard shall be expressed as Agrams of VOC per liter of material® (Section 267), as applied. For any low-solids material listed in table 305, the VOC content standard, as applied, shall be expressed as Agrams of VOC per liter of material® (Section 267) or as AVOC composite partial pressure® (Section 266), whichever is appropriate.

307 EMISSION CONTROL SYSTEM: As an alternative, a person may comply with the VOC limits specified in this rule, by using an approved air pollution control system consisting of capture and control devices, which reduces VOC emissions from the use of adhesives, sealants, strippers or solvents, by an equivalent or greater amount than the limits specified in Sections 302 through 305, with the written approval of the Air Pollution Control Officer. The minimum required overall capture and control efficiency of an emission system at which an equivalent or greater level of VOC reduction will be achieved, shall not be less than 85%, calculated by the following equation:

$$\text{Overall Capture and Control Efficiency, \%} = \frac{\text{Cap Eff} \times \text{Con Eff}}{100}$$

Where: Cap Eff = Capture Efficiency, in Percent
 Con Eff = Control Efficiency, in Percent

308 STORAGE AND DISPOSAL: All VOC-containing materials used in applying adhesive or sealant products, such as surface preparation solvents; cleanup solvents and strippers; and cloth, paper, abrasive pads, and brushes moistened with solvents; shall be stored in non-absorbent closed containers with no liquid leaks. These containers shall be kept closed at all times except when such containers are being filled or emptied or when such containers are empty and dry.

400 ADMINISTRATIVE REQUIREMENTS

401 PROHIBITION OF SALE: Except as allowed in Section 103.12, no person shall sell or offer for sale any adhesive or sealant product that does not meet the applicable VOC content limits specified in Sections 302 through 306.

402 PROHIBITION OF SPECIFICATION: No person shall solicit, require the use of, or specify the application of any adhesive or sealant product subject to this rule, or any surface preparation solvent, cleanup solvent, or stripper subject to this rule, if such use or application would violate this rule. The prohibition in this section shall also apply to all written or oral contracts under the terms of which any such product or solvent is to be applied within the District.

403 LABELING REQUIREMENTS: For any adhesive or sealant product subject to this rule and manufactured on or after July 1, 1997, the product's manufacturer shall:

403.1 Display the following on each adhesive or sealant product container label and/or on the product's material safety data sheet:

403.1.1 The product's maximum VOC content as supplied.

403.1.2 Recommendations regarding thinning, reducing, or mixing with any material containing one or more VOCs (as defined in Section 270).

403.1.3 The maximum VOC content as applied, when the product is applied

according to the manufacturer's recommendations.

403.2 Express the VOC content and/or the VOC Composite Partial Vapor Pressure content in accordance with the definitions, Section 200 and Standards, Sections 302 through 306 in this rule.

403.3 Use the applicable methods in Section 503 and calculations in Section 200 to determine VOC content and VOC Composite Partial Pressure.

404 OPERATION AND MAINTENANCE PLAN: A person using an emission control system pursuant to Section 307 as a means of alternate compliance with this rule, must submit, with the application for Authority to Construct, pursuant to Rule 501, General Permit Requirements, an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records shall be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501 and 502. The Air Pollution Control Officer shall determine whether the Operation and Maintenance Plan meets the requirements of this section not later than 30 days after receipt of the Plan, or within a longer period of time agreed upon by the parties. If the Air Pollution Control Officer does not approve an Operation and Maintenance Plan, the source shall receive written notice of the deficiency, and shall have an additional 30 days from the date of the notification of the deficiency to correct and resubmit the Operation and Maintenance Plan. The Plan shall be implemented upon approval of the Air Pollution Control Officer. A Plan not re-submitted with the deficiencies corrected on a timely basis shall constitute a violation of this rule.

405 FEASIBILITY AND TECHNOLOGY ASSESSMENT, CONTACT ADHESIVES:

By January 1, 1999, the Air Pollution Control Officer shall assess the feasibility of both the exemption expiration date provision in Section 103.8, and the final VOC limits for contact adhesives and whether new technology could provide additional emissions reductions to meet the District's Air Quality Management Plan objectives.

500 MONITORING AND RECORDS

501 RECORD-KEEPING:

In addition to any applicable record-keeping requirements of either Rule 502, New Source Review, Rule 507, Federal Operating Permit Program, Rule 511, Potential to Emit, or any other District rule which may be applicable, any person applying adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers subject to any provision of this rule shall maintain the following records in order to evaluate compliance:

501.1 Product Data: A list of currently used adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers shall be provided and maintained. The list shall include all of the following items for each material used:

501.1.1 The material's manufacturer, product name, and product number or code.

501.1.2 Classification according to the terminology used in Sections 302, 303, 304 and 305 of this rule (e.g., APVC Welding Adhesive, Adhesive Applied to Metal, Substrate Preparation, Medical Devices, etc.

501.1.3 The material's VOC content as applied, determined according to Section 200, when used in the mixing ratio recommended by the

manufacturer, and labeled pursuant to Section 403.

501.1.4 The actual mixing ratio, if different from the manufacturers recommendation., used in applying the material.

501.2 Product Usage and Frequency: Any person using materials regulated by this rule shall record and maintain records of the monthly usage of each individual material as listed pursuant to Section 501.1

501.2 Non-Complying Materials: Any person who uses materials exceeding the VOC limits specified in Sections 302, 303, 304, 305 and 306 shall record such usage on a daily basis showing the classification, product number and volume of materials used.

501.3 EMISSION CONTROL SYSTEM RECORDS:

501.3.1 A person using an emission control system as a means of alternate compliance pursuant to Section 307, shall maintain records on a daily basis, showing the type and volume of coatings and solvents used.

501.3.2 A person using an emission control system as a means of alternate compliance with this rule pursuant to Section 307, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 307, and are defined in Section 231.

502 RETENTION OF RECORDS: All records required by this rule shall be retained for at least three years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

503 TEST METHODS:

503.1 Determination of VOC Content: Except as provided in Sections 503.2 and 503.3, VOC content of non-aerosol adhesive or sealant products, surface preparation solvents, cleanup solvents, or strippers shall be determined in accordance with United States Environmental Protection Agency Method 24 or United States Environmental Protection Agency Method 24A.

503.2 Determination of VOC Content of Aerosol Adhesives Primers: The VOC content of aerosol adhesive primers shall be determined using South Coast Air Quality Management District Test Method 305 for aerosol coatings, California Air Resources Board Method 310, ~~A~~Determination of Volatile Organic Compounds (VOC) in Consumer Products®, or equivalent methods approved by the United States Environmental Protection Agency.

503.3 Determination of VOC Content of Plastic Welding Cement Adhesive/Primer: The VOC content of ABS, CPVC, PVC, or other plastic welding cement adhesive or any plastic welding cement primer shall be determined by using the South Coast Air Quality Management District's ~~A~~Determination of Volatile Organic Compounds (VOC) in Materials Used for Pipes and Fittings®, Method 316a.

- 503.4 Determination of Compounds Exempt From VOC Definition: Exempt compounds referenced in Section 225 and listed in Rule 102, Definitions, shall be determined in accordance with ASTM D 4457-85 or California Air Resources Board Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the United States Environmental Protection Agency-approved test method used to make the determination of these compounds.
- 503.5 Determination of Control Efficiency: Control efficiency of the emissions control system shall be determined in accordance with United States Environmental Protection Agency Method 18, 25, or 25A; or United States Environmental Protection Agency Method 2 or 2C (whichever is applicable).
- 503.6 Determination of Capture Efficiency: Efficiency of the capture system shall be determined in accordance with the United States Environmental Protection Agency's Guidelines for Determining Capture Efficiency, January 9, 1995". Individual collection efficiency test runs subject to the EPA technical guidelines shall be determined by:
- 503.6.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
- 503.6.2 The South Coast Air Quality Management District Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency, or
- 503.6.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 503.7 Determination of VOC Content of Emissions: The VOC content of emissions shall be determined by United States Environmental Protection Agency Method 18.
- 503.8 Determination of Plasticizer Content: The test method used to determine plasticizer content of flexible vinyls shall be ASTM Method E260-73, General Gas Chromatography Procedures.
- 503.9 Determination of VOC Composite Partial Pressure: VOC composite partial pressure shall be determined in accordance with ASTM E260-91 for organic compounds, and ASTM D 3792-86 for water content as applicable, and Sections 266, and 503.10 of this rule.
- 503.10 Determination of Vapor Pressure: Vapor pressure of a VOC shall be determined in accordance with ASTM Method D2879-86, or may be obtained from standard reference texts, such as:
- a. The Vapor Pressure of Pure Substances, Boublik, Fried, and Hala; Elsevier

Scientific Publishing Company, New York.

- b. APerry's Chemical Engineer's Handbook®, McGraw-Hill Book Company.
- c. ACRC Handbook of Chemistry and Physics®, Chemical Rubber Publishing Company.
- d. ALange's Handbook of Chemistry®, John Dean, editor, McGraw-Hill Book Company.

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RULE 236 WOOD PRODUCTS COATING OPERATIONS

Adopted 11-03-94
(Amended 2-09-95, 4-10-97, 8-14-97)

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100 GENERAL

101 PURPOSE: To establish limits on the emission of volatile organic compounds (VOC) from coatings and strippers used on wood products, and from products used in surface preparation and cleanup.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Business Category: The provisions of this rule shall apply to any person who uses, manufactures, blends, sells, repackages, distributes, or specifies wood products coatings and/or strippers to be used for the coating and/or surface preparation of wood products, including furniture, cabinets, and custom replica furniture.

103 EXEMPTIONS:

103.1 Exemption, Residential: Residential non-commercial operations are exempt from all provisions of this rule.

103.2 Exemption, Non-Shop Architectural Coating Operations: The coating of stationary structures and their appurtenances in a non-shop environment, is subject to Rule 218, Architectural Coatings, and is exempt from all provisions of this rule.

103.3 Exemption, Aerosol Spray Coatings: Aerosol wood products coatings sold in non-refillable aerosol containers are exempt from all provisions of this rule.

103.4 Exemption, Panels and Siding: The factory application of wood products coatings in the manufacturing of finished wood panels intended for attachment to the inside walls of buildings, including, but not limited to, homes and office buildings, mobile homes, trailers, prefabricated buildings and similar structures, is subject to Rule 238, Factory Coating of Flat Wood Paneling, and is exempt from all provisions of this rule.

103.5 Exemption, Other: The application of coatings by template or stencil to add designs, letters or numbers to wood products, and the application of coatings to wooden musical instruments are exempt from all provisions of this rule.

103.6 Partial Exemption, Low Volume: Businesses using less than 55 gallons per year of wood products coatings and/or strippers (singly or in any combination) are exempt from all provisions of this rule with the exception of Section 501, USAGE RECORDS.

103.7 Partial Exemption, Specific Finishes: Coatings used to produce the following finishes are exempt from the provisions of Sections 302, 303 and 304, provided that records are maintained as specified in Section 501:

103.7.1 Crackle lacquers.

103.7.2 Faux finishes.

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103.7.3 Imitation wood grain.

103.7.4 Leaf Finishes.

103.8 Exemption From Requirements of Other District Rules: Any wood products coating, stripper or cleaning solvent subject to the VOC limitations of this rule, Sections 302, 303, and 304, is exempt from the requirements of Rule 219, Organic Solvents.

200 DEFINITIONS

201 AEROSOL-SPRAY COATING: A coating which is sold in a hand-held, pressurized, non-refillable container of 1 liter (1.1 quarts) or less, and which is expelled from the container in a finely divided spray when a valve on the container is depressed.

202 AFFECTED POLLUTANT: Volatile organic compounds (VOC), as defined in Section 249.

203 AIR ASSISTED AIRLESS SPRAY: Equipment used to apply coatings that uses fluid pressure to atomize coating and air pressure between 0.1 and 20 psig to adjust the spray pattern.

204 BINDERS: Non-volatile polymeric organic materials (resins) which form surface film in coating applications.

205 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from wood product coating operations, both measured simultaneously in accordance with Section 503.4, and calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC discharged from the coating operations.

206 CLEANUP MATERIAL: A VOC-containing material used to clean application equipment used in wood products coating operations.

207 CLEAR TOPCOAT: The final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.

208 CLOSED CONTAINER: A container which has a cover where the cover meets with the main body of the container without any gaps between the cover and the main body of the container.

209 COATING: A material which is applied to a surface and which forms a film in order to beautify and/or protect such surface. "Coating" includes, but is not limited to, materials such as topcoats, stains, sealers, fillers, conversion varnish, pigmented coating, multicolored coating, moldseal coating, washcoat, and toner.

- 210 CONTROL DEVICE EFFICIENCY:** Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Section 503.5, and calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

- 211 CONVERSION VARNISH:** A coating comprised of a homogeneous (alkyd-amino resin) liquid which, when acid catalyzed and applied, hardens upon exposure to air or heat, by evaporation and polymerization, to form a continuous film that imparts protective or decorative properties to wood surfaces. When used as a self sealing system or as a pigmented coating, conversion varnish shall not be subject to the July 1, 2005 VOC limit for Sealers or for Pigmented Coatings, as specified in section 302.
- 212 CRACKLE LACQUER:** A clear or pigmented topcoat intended to produce a cracked or crazed appearance when dry.
- 213 DETAILING OR TOUCH-UP GUN:** Small air spray equipment, including air brushes, that operates at no greater than five (5) cfm air flow and no greater than 50 psig air pressure and is used to repair or touch-up portions of wood products.
- 214 DIP COAT:** A coating which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.
- 215 ELECTROSTATIC APPLICATION:** The electrical charging of atomized coating droplets for deposition by electrostatic attraction.
- 216 EMISSIONS UNIT:** An identifiable operation or piece of process equipment such as an article, machine, or other contrivance which controls, emits, may emit, or results in the emissions of any affected pollutant directly or as fugitive emissions
- 217 EMISSION CONTROL SYSTEM:** A system for reducing emissions of VOC from coating operations. It consists of (1) equipment which captures drying oven exhaust and fugitive emissions from the line and transports them to the control device, and (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the

atmosphere. The capture efficiency and the control device efficiency are calculated in accordance with Sections 205 and 210, respectively.

The Emission Control System Efficiency is calculated by the following equation:

$$\text{Efficiency, \%} = \frac{\text{Capture Efficiency, \%} \times \text{Control Device Efficiency, \%}}{100}$$

218 ENCLOSED GUN CLEANER:

- 218.1 A device that is used for the cleaning of spray guns, pots and hoses, that has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 218.2 A device that is used for the cleaning of spray guns, pots and hoses, that has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container

219 EXEMPT COMPOUNDS: For the purposes of this rule, Exempt Compounds are as described in Rule 102, Definitions.

220 FAUX FINISH: A finish intended to simulate a surface other than wood, including stone, sand, slate, marble, metal, metal flake or leather.

221 FILLER: A preparation used to fill in cracks, grains, etc., of wood before applying a coating.

222 FLOW COATING: A coating application system where paint flows over the part and the excess coating drains back into the collection system.

223 HIGH-SOLIDS: A coating containing more than one (1) pound of solids per gallon of coating, by weight and which can include wiping stains, glazes, and opaque stains.

224 HIGH-VOLUME-LOW-PRESSURE (HVLP) SPRAY: Equipment used to apply coatings by means of a spray gun which is designed to be operated and which is operated between 0.1 and 10 psig air pressure measured dynamically at the center of the air cap and at the air horns.

225 IMITATION WOOD GRAIN: A hand applied finish that simulates the appearance of a specific natural wood grain.

226 INK: A fluid that contains dyes and/or colorants and is used to make markings but not to protect surfaces.

227 LEAF FINISH: A finish used in conjunction with metal leaf or foil.

228 LOW-SOLIDS COATING: A coating containing one (1) pound of solids per gallon of coating or less, by weight and which can include semi-transparent stains, toners, and washcoats.

229 LOW-VOLUME, LOW-PRESSURE (LVLP) EQUIPMENT: Spray coating application equipment

with air pressure between 0.1 and 10.0 psig and air volume less than 15.5 cfm per spray gun and which operates at a maximum fluid delivery pressure of 50 psig.

- 230 MOLD-SEAL COATING:** The initial coating applied to a new mold or repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.
- 231 MULTI-COLORED COATING:** A coating which exhibits more than one (1) color when applied and which is packaged in a single container and applied in a single coat.
- 232 NEW WOOD PRODUCT:** A wood product which has not been previously coated or a wood product from which uncured coatings have been removed to repair flaws in initial coatings applications.
- 233 NON-SHOP ARCHITECTURAL COATING OPERATIONS:** The commercial application of coatings to stationary structures and/or their appurtenances, to mobile homes, to pavements, or to curbs, and not conducted inside, or on the premises of, a factory or shop building facility.
- 234 OPAQUE STAINS:** Stains not classified as semitransparent stains, which contain pigments which give character to wood.
- 235 PIGMENTED COATINGS:** Opaque coatings which contain binders and colored pigments which are formulated to hide the wood surface, either as an undercoat or topcoat.
- 236 REACTIVE DILUENT:** A liquid component of a coating which is a VOC during application, and one in which, through chemical or physical reactions, such as polymerization, becomes an integral part of a finished coating.
- 237 REFINISHING OPERATION:** The steps necessary to remove cured coatings and to repair, preserve, or restore a wood product.
- 238 REPAIR:** Recoating portions of previously coated product to cover mechanical damage to the coating following normal painting operations.
- 239 ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of roller, which is applied to a substrate by moving the substrate underneath the roller.
- 240 SEALER:** A coating containing binders, which seals the wood prior to application of the subsequent coatings.
- 241 SEMITRANSSPARENT STAIN:** A stain containing dyes and/or semi-transparent pigments which are formulated to enhance wood grain and change surface color but not to conceal surface grain, and include sap stain and non-grain raising stains. Semitransparent stains with greater than one (1) pound of solids per gallon of coating shall be considered opaque stains.
- 242 SIMULATED WOOD MATERIALS:** Materials, such as plastic, glass, metal, etc., that are made to give a wood-like appearance or are processed like a wood product.
- 243 STENCIL COATING:** An ink or a pigmented coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to wood products.

- 244 STRIPPER:** A liquid used to remove cured coatings, cured inks, and/or cured adhesives.
- 245 SURFACE PREPARATION MATERIAL:** A VOC-containing material applied to the surface of any wood product, prior to the application of coatings, to clean the wood product or to promote the adhesion of subsequent coatings.
- 246 TONER:** A wash coat which contains binders and dyes or pigments to add tint to a coated surface.
- 247 TOUCH-UP:** A coating used to cover minor coating imperfections appearing after the main coating operation.

- 248 VOC COMPOSITE PARTIAL VAPOR PRESSURE:** VOC composite partial vapor pressure for determination of compliance with Section 304 shall be calculated by the following

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i) / MW_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n WSUB \frac{i}{MW_i}}$$

equation:

Where:

PP_c	=	VOC composite partial pressure at 20°C, in mm mercury.
W_i	=	Weight of the "i"th VOC compound, in grams.
W_w	=	Weight of water, in grams.
W_e	=	Weight of exempt compounds, in grams.
MW_i	=	Molecular weight of the "i"th VOC compound, in (g/g-mole).
MW_w	=	Molecular weight of water, in (g/g-mole).
MW_e	=	Molecular weight of exempt compound, in (g/g-mole).
Vp_i	=	Vapor pressure of the "i"th VOC compound at 20°C, in mm mercury.

- 249 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.
- 250 VOC CONTENT PER LITER OF COATING, LESS WATER AND EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids, shall be calculated by the following equation:

$$G_l = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where: G_1 = Weight of VOC per liter of coating, less water and less exempt compounds.
 W_v = Weight of volatile compounds, in grams.
 W_w = Weight of water, in grams.
 W_{ec} = Weight of exempt compounds, in grams.
 V_m = Volume of coating material, in liters.
 V_w = Volume of water, in liters.
 V_{ec} = Volume of exempt compounds, in liters.

251 VOC CONTENT PER LITER OF MATERIAL: The weight (in grams) of VOC per liter of wood products coating material is expressed as Grams VOC per Liter of Material, and shall be calculated using the following

$$\text{Weight of VOC per volume of material} = \frac{(W_v + W_w + W_{ec})}{V_m}$$

Where: W_v = Weight of all volatile compounds, in grams
 W_w = Weight of water, in grams
 W_{ec} = Weight of compounds listed as exempt from the definition of VOC, in Section 218, in grams
 V_m = Volume of material, including any added VOC-containing solvents or reducers but excluding any colorants added to tint the base, in liters

252 VOC CONTENT PER POUND OF COATING SOLIDS: Pounds of VOC per pound of coating solids is the weight of VOC per weight of coating solids in any given coating material, and shall be calculated by the test method found in Section 503.1 and the following equation:

$$252.1 \quad \text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where: W_s = Weight of volatile compounds, in pounds
 W_w = Weight of water, in pounds
 W_{es} = Weight of exempt compounds, in pounds
 W_r = Weight of coating solids, in pounds

252.2 For coatings that contain **reactive diluents**, the VOC content of the coating is determined **after curing**. For these coatings, the pounds of VOC per pound of coating solids shall be calculated by the test method found in Section 503.1 and the following equation:

$$\text{Pounds of VOC per Pound of Solids} = \frac{W_s - W_w - W_{es}}{W_r}$$

Where: W_s = Weight of volatile compounds in pounds, emitted into the atmosphere during curing

W_w	=	Weight of water in pounds, emitted into the atmosphere during curing
W_{es}	=	Weight of exempt compounds in pounds, emitted into the atmosphere during curing
W_r	=	Weight of coating solids in pounds, prior to reaction

- 253 WASH COAT:** A coating, containing binders, which penetrates into and seals wood, prevents undesired staining, and seals in wood pitch. Washcoats with greater than one (1) pound of solids per gallon of coating shall be considered sealers.
- 254 WOOD PANEL:** Any piece of wood, or wood composition, which is solid or laminated, and which is larger than 10 square feet in size, and which is not subsequently cut into smaller pieces.
- 255 WOOD PRODUCTS:** Surface-coated objects such as cabinets (kitchen, bath and vanity), tables, chairs, beds, sofas, shutters, doors, trim, containers, tools, ladders, art objects, and any other objects made of solid wood and/or wood composition and/or of simulated wood material used in combination with solid wood or wood composition.
- 256 WOOD PRODUCT COATING APPLICATION OPERATIONS:** A combination of coating application steps which may include use of spray guns, flash-off areas, spray booths, ovens, conveyors, and/or other equipment operated for the purpose of applying coating to wood products.

300 STANDARDS

- 301 APPLICATION EQUIPMENT REQUIREMENTS:** A person subject to the provisions of this rule shall not apply any wood product coating to any wood products, unless one of the following application methods is used:
- a. Hand application methods, such as brush or roller
 - b. Roll coater
 - c. Dip coat
 - d. Flowcoat
 - e. High Volume Low Pressure spray equipment
 - f. Low Volume Low Pressure spray equipment
 - g. Air assisted airless, for touch-up and repair only
 - h. Electrostatic application equipment
 - i. Any other equivalent method which has been approved in writing by the Air Pollution Control Officer and the U.S. Environmental Protection Agency
- 302 LIMITS FOR VOC CONTENT OF COATINGS FOR NEW WOOD PRODUCTS:** Except as provided in Sections 103, 305, and 306 no person shall apply any coatings to a new wood product, or use VOC-containing solvents, if such materials have a VOC content exceeding the applicable limits specified in the following table. The VOC content of coatings, except low-solid stains, toners, washcoats and solvents, shall be determined in accordance with Sections 250 and 503.1. The VOC content of low-solid stains, toners washcoats and

solvents, shall be determined in accordance with Sections 251 and 503.1.

- 302.1 If the emission averaging provisions of Section 306 are not used to achieve compliance with this section, VOC limits expressed in Grams VOC Per Liter of Coating shall be used.
- 302.2 If the emission averaging provisions of Section 306 are used to achieve compliance with this section, VOC limits expressed in Pounds VOC Per Pound of Solids, in accordance with Section 252, shall be used.

(Section 302 Continues With The Following Table)

LIMITS FOR VOC CONTENT OF COATINGS FOR NEW WOOD PRODUCTS

SPECIFIC MATERIAL	VOC LIMITS Grams VOC Per Liter of Coating <u>Less Water and Exempt Compounds</u> , as defined in Section 250 (Pounds VOC Per Pound of Solids, which applies only if Emission Averaging is used, as defined in Section 252)	
	BEFORE JULY 1, 2005	EFFECTIVE JULY 1, 2005
Clear Topcoats	550 (1.37)	275 (0.35)
Conversion Varnish	550 (1.37)	550 (1.20) *
Filler	500 (0.66)	275 (0.18)
High-Solid Stain	550 (1.23)	350 (0.42)
Inks	500 (0.96)	500 (0.96)
Mold-Seal Coating	750 (4.20)	750 (4.20)
Multi-colored Coating	685 (2.60)	275 (0.33)
Pigmented Coating	550 (1.10)	275 (0.25) *
Sealer	550 (1.39)	275 (0.36) *
	VOC LIMITS Grams VOC per Liter of <i>Material</i> , as defined in Section 251 (Pounds VOC per Pound of Solids, which applies only if Emission Averaging is used, as defined in Section 252)	
Low Solid Stains, Toners and Washcoats	BEFORE JULY 1, 2005	EFFECTIVE JULY 1, 2005
	480 (4.0)	120 (1.00)
	VOC LIMITS Grams VOC Per Liter of <i>Material</i> (Pounds Per Gallon)	
Surface Prep and Clean-up Solvents Containing VOC-s	BEFORE JULY 1, 2005	EFFECTIVE JULY 1, 2005
	200 (1.67)	200 (1.67)

* (See Section 211 for special conditions for Conversion Varnish)

302.3 Notwithstanding the VOC limits specified in this section, a person may apply a sealer with a VOC content not exceeding 680 grams/liter, provided that the topcoat used on the same wood product does not exceed 275 grams/liter.

303 **LIMITS FOR VOC CONTENT OF COATINGS FOR REFINISHING, REPAIRING, PRESERVING, OR RESTORING WOOD PRODUCTS:** Except as provided in Sections 103, 305, and 306 no person shall apply any coatings to refinish, repair, preserve, or restore a wood product, or use VOC-containing solvents, if such materials have a VOC content exceeding the applicable limits specified in the following table. The VOC content of coatings, except

low-solid stains, toners, and washcoats, shall be determined in accordance with Sections 250 and 503.1. The VOC content of low-solid stains, toners and washcoats and VOC-containing solvents shall be determined in accordance with Sections 251 and 503.1.

303.1 If the emission averaging provisions of Section 306 are not used to achieve compliance with this section, VOC limits expressed in grams per liter shall be used.

303.2 If the emission averaging provisions of Section 306 are used to achieve compliance with this section, VOC limits expressed in pounds of VOC per pound of solids, in accordance with Section 252, shall be used.

LIMITS FOR VOC CONTENT OF COATINGS TO REFINISH, REPAIR, PRESERVE OR RESTORE

SPECIFIC MATERIAL	VOC LIMITS Grams VOC Per Liter of Coating <u>Less Water and Exempt Compounds</u> , as defined in Section 250 (Pounds VOC Per Pound of Solids [applies only if Emission Averaging is used], as defined in Section 252)
Clear Topcoats	680 (2.50)
Conversion Varnish	550 (1.20) *
Filler	500 (0.96)
High-Solid Stain	700 (2.57)
Inks	500 (0.96)
Mold-Seal Coating	750 (4.20)
Multi-colored Coating	680 (2.50)
Pigmented Coating	600 (1.60) *
Sealer	680 (2.50) *
	VOC LIMIT Grams VOC Per Liter of <i>Material</i> , as defined in Section 251 (Pounds VOC Per Pound of Solids [applies only if Emission Averaging is used], as defined in Section 252)
Low Solid Stains, Toners and Washcoats	480 (0.76)
	VOC LIMIT Grams VOC Per Liter of <i>Material</i> (Pounds VOC Per Gallon)
Surface Prep and Clean-up Solvents Containing VOCs	200 (1.67)

* (See Section 211 for special conditions for Conversion Varnish)

304 LIMITS OF VOC CONTENT FOR STRIPPERS: A person shall not use a stripper on wood

products unless:

- 304.1 The stripper contains less than 350 grams of VOC per liter of material; **or**
- 304.2 the VOC composite partial vapor pressure for the stripper is 2 mm mercury (0.04 psia) or less at 20°C (68°F), as calculated pursuant to Section 248.

305 EMISSION CONTROL SYSTEM:

- 305.1 As an alternative, a person may comply with the VOC limits specified in Sections 302, 303, and 304, by using an approved air pollution control system consisting of a capture system and a control device, which reduces VOC emissions from the application of wood products coatings or strippers by an equivalent or greater amount than the limits specified in Sections 302, 303, and 304, with the written approval of the Air Pollution Control Officer. In order to achieve an equivalent or greater level of VOC reduction, the minimum allowable Emission Control System Efficiency of such a system, when calculated pursuant to Section 217, shall be the efficient

cy
calcula
ted by
the
followin
g equation:

$$C.E. = 1 - \left(\frac{VOC_{LWc}}{VOC_{LWnMax}} \right) \times \frac{(1 - (VOC_{LWnMax} / (D_{nMax}))}{(1 - (VOC_{LWc} / D_c))} \times 100$$

Where:	C.E.	=	Minimum allowable Emission Control System Efficiency, percent.
VOC_{LWc}	=		VOC Limit of Rule 236, less water and less exempt compounds, pursuant to Sections 302, 303, and/or 304.
$VOC_{LWn,Max}$	=		Maximum VOC content of non-compliant coating used in conjunction with a control device, less water and less exempt compounds.
$D_{n,Max}$	=		Density of solvent, reducer, or thinner contained in the non-compliant coating, containing the maximum VOC content of the multi component coating, g/L.
D_c	=		Density of corresponding solvent, reducer, or thinner used in the compliant coating system. [= 880 g/L.]

- 305.2 The capture system shall vent all drying oven exhaust to the control device and shall have one or more inlets for collection of fugitive emissions; and
- 305.3 During any period of operation of a thermal incinerator, combustion temperature shall be continuously monitored; and
- 305.4 During any period of operation of a catalytic incinerator, exhaust gas

temperature shall be continuously monitored; and

- 305.5 Written approval for the use of such equipment is obtained from the Air Pollution Control Officer prior to installation or use of the equipment.

306 EMISSIONS AVERAGING PROVISIONS:

- 306.1 A person may comply with the provisions of Sections 302, 303, and 304 by using an averaging approach for all or a portion of the coatings used at the facility, provided that all requirements of this Section are met.

- 306.1.1 Standard: A person using the provisions of this Section for compliance shall demonstrate that emissions from the coatings being averaged, on a pounds of VOC per pounds of solids basis, on a rolling 30-day basis, are less than or equal to 90 percent of the allowable emissions, based on the following:

$$0.9 \sum_{i=1}^n VOC_i (U_i) \geq \sum_{i=1}^n ER_i (U_i)$$

Where:

VOC_i = VOC content limit of coating Al (grams of VOC per liter of material for low solids coatings and pounds of VOC per pound of solids for all other coatings, as required in Sections 302, 303, or 304).

U_i = Usage of coating Al (liters of material for low-solids coatings, and pounds of solids for all other coatings), and

ER_i = Actual VOC content of coating Al , as applied (grams per liter for low-solids materials and pounds of VOC per pounds of solids for all other coatings).

- 306.1.2 Conditions: The 0.9 multiplier above is applicable only to facilities that are subject to Rule 507 Federal Operating Permit Program, and is not applicable after July 1, 2005. Any wood product coating not included in the emissions averaging shall comply with the VOC limits in Sections 302, 303, or 304.

307 REQUIREMENTS FOR SURFACE PREPARATION AND CLEANUP MATERIALS: Any person subject to this rule shall comply with the following requirements:

- 307.1 Spray gun nozzles only, may be soaked in solvent-based materials for cleaning, provided the container (not to exceed five (5) gallons in size) is kept tightly covered at all times except when accessing the container.
- 307.2 Closed containers shall be used for the disposal of cloth or paper used for surface preparation, cleanup, and coating removal.
- 307.3 VOC-containing materials shall be stored in containers, which are closed when not in use, and shall be disposed of in a manner that the VOCs are not emitted into the atmosphere.

- 307.4 A person shall not use solvent-based VOC-containing materials for the cleanup of spray equipment used in wood products coating application operations, unless the spray equipment is disassembled and cleaned in an enclosed gun cleaner.
- 307.5 A person shall not perform surface preparation or cleanup with a material containing VOCs in excess of 200 grams per liter (1.67 pounds per gallon) in accordance with VOC limit standards in Sections 302 and 303.

400 ADMINISTRATIVE REQUIREMENTS

401 PROHIBITION OF SPECIFICATION: No person shall require for use or specify the application of any coating subject to the provisions of this rule that does not meet the limits and requirements of this rule. The prohibition of this Section shall apply to all written or oral contracts under the terms of which any coating is to be applied to any wood product at any physical location within the District.

402 LABELING REQUIREMENTS, VOC CONTENT: Each container of any coating, surface preparation material, or cleanup material, or stripper manufactured after July 1, 1997 shall display its maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer, or shall have this information provided in a product data sheet supplied with the container. VOC content shall be displayed as grams of VOC per liter of coating (less water and less exempt solvent, and excluding any colorant added to tint bases), surface preparation and cleanup material, or stripper. VOC content displayed may be calculated using product formulation data, or may be determined using the test method in Section 503.1. Alternatively, containers for strippers subject to the provisions of Section 304 may display only the partial vapor pressure.

403 EMISSIONS AVERAGING PLAN:

403.1 A person wanting to use the emissions averaging provisions of Section 306 to achieve compliance with this rule shall submit an Emissions Averaging Plan (APlan®) for approval by the Air Pollution Control Officer. The Plan may not be implemented until it is approved, in writing, by the Air Pollution Control Officer. Submittal of a Plan does not provide an exemption from the requirements of this rule. The Plan must be resubmitted, for approval by the Air Pollution Control Officer on an annual basis. If the Plan is not approved, emissions averaging will not be permitted.

403.2 The Plan shall include, at a minimum:

403.2.1 A description of the wood product coatings to be included in the averaging program, **and**

403.2.2 A description of the quantification and record keeping for coating usage, coating VOC and solids content, VOC emissions, and calculations to show compliance with Section 306.

404 OPERATION AND MAINTENANCE PLAN: A person using an emission control system pursuant to Section 305, as a means of alternate compliance with this rule, as provided in Sections 302, 303 and 304, must submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of alternate compliance with this rule shall submit in addition to an Operation and Maintenance Plan, an

application for Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501 and 502. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

405 FEASIBILITY AND TECHNOLOGY ASSESSMENT: By July 1, 2003, the Air Pollution Control Officer shall assess the feasibility of the July 1, 2005 VOC limits and whether new technology could provide additional emissions reductions to meet the District's Air Quality Management Plan objectives.

500 MONITORING AND RECORDS

501 RECORD-KEEPING: In addition to any applicable record keeping requirements of either Rule 502, New Source Review, Rule 507, Federal Operating Permit Program, and Rule 511, Potential to Emit, or any other District rule which may be applicable, any person subject to this rule shall maintain the following records in order to evaluate compliance:

501.1 Product Data:

- 501.1.1 A data sheet, material list, or invoice giving material name, manufacturer identification, material application, and VOC content;
- 501.1.2 Any catalysts, reducers, or other components used, and the mix ratio;
- 501.1.3 the applicable VOC limit from Section 302 or 303 and the actual VOC content of the wood product coating as applied.

501.2 Product Usage and Frequency:

- 501.2.1 For persons using coatings or materials which comply with the VOC limits specified in Sections 302, 303, and 304, records shall be maintained on a monthly basis, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used. Coating type shall be designated according to the coating categories as listed in Sections 302, 303, and 304.
- 501.2.2 For coatings used in emissions averaging pursuant to Section 306, daily records shall be maintained, showing the type and volume of coatings, strippers and surface preparation and cleanup materials used.
- 501.2.3 If at any time a person uses coatings or materials exceeding the VOC limits specified in Sections 302, 303, and 304, records shall be maintained on a daily basis showing the type and volume of materials used.

501.3 Emission Control System:

- 501.3.1 A person using an emission control system as a means of alternate compliance pursuant to Section 305, shall maintain records on a daily basis, showing the type and volume of coatings and solvents used.

501.3.2 A person using an emission control system as a means of alternate compliance with this rule pursuant to Section 305, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 305.

502 RETENTION OF RECORDS: All records required by this rule shall be retained for at least three years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

503 TEST METHODS

503.1 Determination of VOC Content: VOC content of wood product coatings, strippers, and surface preparation and cleanup materials, subject to this rule, shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 and Sections 250, 251 or 252 of this rule, as applicable.

503.2 Determination of Composition of VOC: The composition of VOC shall be as specified on the manufacturer's label or data sheet, or as determined by ASTM Method E-260, General Gas Chromatograph.

503.3 Determination of Compounds Exempt From VOC Definition: Exempt Compounds per Section 219 of this rule, and as defined in Rule 102, Definitions, shall be determined in accordance with ASTM D-4457-85, or ARB Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the U.S. EPA-approved test method used to make the determination of these compounds.

503.4 Determination of Capture Efficiency: Efficiency of the capture system shall be determined in accordance with U.S. EPA ~~A~~Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines, calculated in accordance with Section 205, shall be determined by:

503.4.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or

503.4.2 The South Coast Air Quality Management District ~~A~~Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency~~@~~, or

503.4.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control

Officer.

- 503.5 Determination of Control Device Efficiency: Efficiency of the emission control device shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25 or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable, and calculated in accordance with Section 210.
- 503.6 Vapor Pressure: Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D-2879.
- 503.7 Volatile Content of Radiation Curable Materials: Volatile content of radiation curable materials shall be obtained in accordance with ASTM Method D-5403-93.

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RULE 237 MUNICIPAL LANDFILLS

Adopted 11-03-94
(Amended 02-09-95, 08-14-97)

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100 GENERAL

101 PURPOSE: To limit non-methane organic compounds (NMOC) emissions from municipal solid waste (MSW) landfills by implementing the provisions of 40 Code of Federal Regulations (CFR) Part 60, Subpart Cc Emission Guidelines and Compliance Times for MSW Landfills.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule shall apply to all facilities located in Placer County.

102.2 Business Category: The provisions of this rule shall apply to all Municipal Solid Waste (MSW) landfills that meet both of the following conditions:

102.2.1 Construction, reconstruction, or modification that was commenced before May 30, 1991; and

102.2.2 Has accepted waste at any time since November 8, 1987 or has additional design capacity available for future waste deposition.

200 DEFINITIONS

Terms used but not defined in this rule have the meaning given them in 40 CFR Part 60.751 (Definitions) except:

201 ADMINISTRATOR: The Placer County Air Pollution Control Officer is the Administrator for the purposes of this rule and referenced provisions of the Code of Federal Regulations, except that the APCO shall not be empowered to approve:

201.1 Alternative or equivalent test methods, alternative standards; or

201.2 Alternative work practices unless included in the site specific design plan as provided in 40 CFR Section 60.752 (b)(2)(I).

202 DESIGN PLAN OR PLAN: The site-specific design plan for the gas collection and control system submitted under Section 303 of this rule.

203 MUNICIPAL SOLID WASTE LANDFILL OR MSW LANDFILL: An entire disposal facility in a contiguous geographical space where household waste is placed in or on land. A MSW landfill may also receive other types of RCRA Subtitle D wastes such as commercial solid waste, nonhazardous sludge, conditionally exempt small quantity generator waste, and industrial solid waste. Portions of an MSW landfill may be separated by access roads. A MSW landfill may be publicly or privately owned. A MSW landfill may be a new MSW landfill, an existing MSW landfill or a lateral expansion

300 STANDARDS

301 DESIGN CAPACITY AND EMISSIONS REPORT: The owner or operator of each MSW landfill shall submit an initial design capacity and emissions report and amended design capacity emissions report as specified in 40 CFR 60.752 (Standards for Air Emissions from MSW Landfills). Any density conversions shall be documented and submitted with the report.

August 14, 1997

302 COLLECTION AND CONTROL SYSTEM: The owner or operator of a MSW landfill that has either a design capacity equal to or greater than 2.5 million megagrams (2.75 million tons) or 2.5 million cubic meters, or a non-methane organic compounds (NMOC) emission rate of 50 megagrams per year (55.1 tons per year), or more as calculated pursuant to 40 Code of Federal Regulations (CFR) 60.754, shall install a collection and control system meeting the conditions provided in 40 CFR 60.752(b)(2)(ii) and (iii), except as provided in Section 304 of this rule.

303 COLLECTION AND CONTROL SYSTEM DESIGN PLAN: The owner or operator of a MSW landfill required to install a gas collection and control system pursuant to Section 302 shall submit a site-specific collection and control system design plan to the APCO as provided under 40 CFR 60.752(b)(2)(I)(B), and an Authority to Construct application pursuant to Rule 501, General Permit Requirements, and meet all of the following conditions.

303.1 The design plan shall include any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, record keeping or reporting provisions of 40 CFR 60.753 through 60.758.

303.2 The APCO shall review and either approve or disapprove the plan, or request that additional information be submitted. The design plan shall either conform with specifications for active collection systems in 40 CFR 60.759 or include a demonstration to the APCO's satisfaction of the sufficiency of the alternative provisions to 40 CFR 60.759. The design plan may include alternatives as specified in 40 CFR 60.752(b)(2)(B).

303.3 The design plan shall provide for the control of collected MSW landfill emissions through the use of a collection and control system meeting the collection and control system requirements of 40 CFR 60.752(b)(2)(ii) and (iii) except that paragraphs (b)(2)(ii)(B) and (b)(2)(iii)(A) of 40 CFR 60.752 concerning the use of passive collection systems and open flares do not apply to MSW landfills subject to this rule. Sources shall route all collected gas to a collection and control system that complies with the requirements of 40 CFR 60.752(b)(2)(ii)(A) for active collection systems or 40 CFR 60.752(b)(2)(iii)(B) or (C), concerning control devices and treatment systems other than an open flare.

304 COLLECTION AND CONTROL SYSTEM OPERATIONAL STANDARDS: Each MSW landfill required to install a gas collection and control system pursuant to Section 302 shall meet the operational standards in 40 CFR 60.753; the compliance provisions in 40 CFR 60.755 and the monitoring provisions in 40 CFR 60.756, except that the APCO may approve alternatives in the design plan as provided in Section 303 of this rule.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

401.1 The design capacity and the NMOC emissions reports required pursuant to 40 CFR 60.752 and 40 CFR 60.754 shall be submitted within ninety (90) days after August 8, 1997.

401.2 The site-specific collection and control system design plan required under Section 303 of this rule shall be submitted within one year after the District determines that the MSW landfill has a NMOC emission rate equal to or greater than fifty (50) megagrams per year, or that there is 500,000 tons or more of waste in place.

401.3 The planning, awarding of contracts, and installation of the collection and control

equipment required pursuant to Section 302 of this rule shall be accomplished within thirty (30) months after August 8, 1997.

401.4 The initial performance test of the collection and control system equipment shall be accomplished within six (6) months of control system startup.

500 MONITORING AND RECORDS

501 RECORD KEEPING: The owner or operator of each MSW landfill shall meet the record keeping and reporting requirements of 40 CFR 60.757 and 40 CFR 60.758, as applicable, except that the APCO may approve alternative record keeping and reporting provisions as provided in Section 304 of this rule. Any records or reports required to be submitted pursuant to 40 CFR 60.757 or 40 CFR 60.758 shall be submitted to the APCO.

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RULE 238 FACTORY COATING OF FLAT WOOD PANELING

Adopted 11-03-94
(Amended 2-09-95, 6-08-95, 8-14-97)

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100 GENERAL

101 PURPOSE: The purpose of this Rule is to limit the emission of volatile organic compounds (VOC) from the factory application of coatings and inks to flatwood paneling as defined in Section 207, and to wood flat stock, as defined in Section 219.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Business Category: The provisions of this rule shall apply to any person who applies in a shop or factory facility, coatings or inks used to coat any products defined in Section 207 or 219, or who manufactures, blends, sells, repackages, distributes or specifies, such coatings and inks. Standard Industrial Code (SIC) classifications covering these coating processes are 2431, 2435, 2436, 2492 and 2499.

103 EXEMPTIONS:

103.1 Exemption, Furniture and Cabinet Components: Surface coating of flat wood stock intended to be used as a furniture or cabinet component, is subject to Rule 236, Wood Products Coating Operations, and is exempt from all provisions of this rule.

103.2 Exemption, Non-Shop Architectural Coatings: The coating of stationary structures and their appurtenances in a non-shop operation is subject to Rule 218, Architectural Coatings, and is exempt from all provisions of this rule.

103.3 Exemption, Adhesives: The use of adhesives to manufacture flatwood panels or wood flat stock, is subject to Rule 235, Adhesives, and is exempt from all provisions of this rule.

103.4 Exemption From Requirements of Other District Rules: Any coating, ink or cleanup material which contains compounds that are subject to the VOC provisions of this rule, is exempt from the provisions of Rule 219, Organic Solvents.

103.5 Exemption - Residential, Non-Commercial Operations: Residential, non-commercial flatwood coating operations are exempt from all provisions of this rule.

103.6 Partial Exemption, Low Volume: Businesses using less than 55 gallons per year or coatings, inks and VOC-containing cleanup solvents or strippers, (singly or in combination) are exempt from the provisions of this rule, except for Record-keeping, Section 501.

103.7 Exemption, Aerosol Coatings, Touch-Up: Aerosol-spray coatings for touch up and repair are exempt from all provisions of this rule.

103.8 Exemption, Other: The application of coatings by template in order to add designs, letters, or numbers to wood products, is exempt from all provisions of this rule.

200 DEFINITIONS

201 ADHESIVE: Any substance that is applied for the primary purpose of bonding surfaces together.

202 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from flatwood paneling coating operations, both measured simultaneously in accordance with Section 505.2, and can be calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC discharged from the coating operations

203 COATING: Any coating applied on any flatwood paneling or wood flat stock including but not limited to water repellant preservative, semitransparent stains, opaque stains, Filler, or clear top coat.

204 CONTROL DEVICE EFFICIENCY: Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Section 505.3, and can be calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

205 EMISSION CONTROL SYSTEM: A system for reducing emissions of VOC from flatwood paneling coating operations. It consists of (1) a capture device or system which collects all drying oven exhaust and fugitive emissions from the line and transports them to the control device, and (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The individual efficiencies are calculated in accordance with Sections 202 and 204.

The overall efficiency of the emission control system is calculated by the following equation:

$$\text{Overall Efficiency, \%} = \frac{\text{Capture Efficiency, \%} \times \text{Control Device Efficiency, \%}}{100}$$

- 206 EXEMPT COMPOUNDS:** For the purposes of this rule, exempt compounds are as defined in Rule 102, Definitions.
- 207 FLATWOOD PANELING:** Printed interior panels made of hardwood plywood and thin particle board, natural finish hardwood plywood, hardwood paneling, baseboard, wood flat stock, veneers, doors, door skins, wood flat product skins, tileboard and wallboard.
- 208 HARDBOARD:** A panel manufactured primarily from inter-felted ligno-cellulosic fibers which are consolidated under heat and pressure in a hot press.
- 209 HARDWOOD PLYWOOD:** Plywood whose surface layer is a veneer of hardwood.
- 210 INK:** Any fluid or viscous composition used in printing impressing or transferring an image onto a panel.
- 211 NATURAL FINISH HARDWOOD PLYWOOD PANELS:** Panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.
- 212 NON-HEAT-SET INK:** An ink which dries by oxidation and absorption into the substrate without the use of heat from dryers or ovens.
- 213 PANEL:** A flat piece of wood or wood product usually rectangular and used inside homes and mobile homes for wall decorations.
- 214 PRINTED INTERIOR PANELS:** Panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.
- 215 THIN PARTICLEBOARD:** A manufactured board 1/4 inch or less in thickness made of individual wood particles which have been coated with a binder and formed into flat sheets by pressure.
- 216 TILEBOARD:** Paneling that has a colored waterproof surface coating.
- 217 VOC CONTENT PER LITER OF COATING, LESS WATER AND EXEMPT COMPOUNDS:** The weight of VOC per combined volume of VOC and coating solids, measured in accordance with Section 505.1, and calculated by the following equation:

$$G_l = \frac{W_v - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:

G_l	=	Weight of VOC per liter of coating, less water and exempt compounds.
W_v	=	Weight of volatile compounds, in grams.
W_w	=	Weight of water, in grams.
W_{ec}	=	Weight of exempt compounds, in grams.
V_m	=	Volume of coating material, in liters.
V_w	=	Volume of water, in liters.
V_{ec}	=	Volume of exempt compounds, in liters.

- 218 VOLATILE ORGANIC COMPOUND (VOC):** Any chemical compound containing at least one atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.
- 219 WOOD FLAT STOCK:** Interior panels containing wood including but not limited to redwood stocks, plywood panels, particle boards, composition hardboards, and any other panels containing solid wood or wood product.

300 STANDARDS

- 301 GENERAL REQUIREMENTS:** Any person applying coatings or inks to flatwood paneling products subject to this rule shall comply with either of the following requirements:

301.1 Use only coatings and inks which contain, on an as-applied basis, 250 grams or less of VOC per liter (2.1 pounds per gallon) less water and exempt compounds, calculated in accordance with Section 217.

OR

301.2 Install and operate on the line(s), an Emission Control System as defined in Section 205, that operates at an overall efficiency of at least 90%, as calculated in accordance with Section 205, and that has been approved pursuant to Section 401.

- 302 APPLICATION EQUIPMENT REQUIREMENTS:** A person or facility shall not apply coatings to wood products subject to the provisions of this rule unless the coating is applied with properly operating equipment, in accordance with proper operating procedures, and by the use of one of the following methods:

302.1 Electrostatic application

302.2 High volume, low pressure (HVLP) spray

302.3 Hand roller

302.4 Flow coat

302.5 Roll coater

302.6 Dip coat

302.7 Paint brush

302.8 Detailing or touch-up guns

- 303 CLEANUP AND STORAGE PROCEDURES:** Any person or facility using VOC-containing solvents for cleanup or related uses shall observe the following procedures:

303.1 All solvent, including waste solvent and waste solvent residues, shall be stored in closed containers at all times. Each container shall have a label indicating the name of the solvent or material it contains.

303.2 If recovery of waste solvent by distillation is performed, solvent residues shall not contain more than 10 percent solvent by volume after distillation.

400 ADMINISTRATIVE REQUIREMENTS

- 401 OPERATION AND MAINTENANCE PLAN:** A person using an existing emission control system as a means of compliance with this rule, pursuant to Section 301.2, shall submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of compliance with this rule, shall submit in addition to an Operation and Maintenance Plan, an application for an Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records shall be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 503. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

500 MONITORING AND RECORDS

- 501 COATING LIST:** Any person subject to Section 301 shall maintain at the facility, a current list of coatings and inks in use, and which includes all of the data necessary to evaluate compliance with the standards of this rule.

- 502 RECORD-KEEPING:** Any person subject to this Rule shall maintain records on a daily basis that provide the following information as applicable:

502.1 Coating types and mix ratios of components used

502.2 Quantity of each coating applied

502.3 Description of substrate(s) coated

502.4 Oven or cure temperature, if applicable

502.5 Type and amount of solvent used for cleanup and surface preparation

- 503 EMISSION CONTROL SYSTEM RECORDS:** A person using an emission control system as a means of compliance with this rule pursuant to Section 301.2, shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control system during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of Section 301.2.

- 504 RETENTION OF RECORDS:** All records maintained pursuant to this rule shall be retained for at least three years from date of entry, with the exception that sources subject to the requirements of Rule 507, Federal Operating Permit Program, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

505 TEST METHODS

- 505.1 Determination of VOC Content: VOC content of flatwood paneling coatings shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 or U.S. EPA Method 24A and Section 217 of this rule.

- 505.2 Determination of Capture Efficiency: Efficiency of the capture system, calculated in accordance with Section 202, shall be based upon test measurements made in accordance with U.S. EPA ~~A~~Guidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines shall be determined by:
- 505.2.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or
 - 505.2.2 The South Coast Air Quality Management District ~~A~~Protocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency~~@~~, or
 - 505.2.3 Any other method approved by U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.
- 505.3 Determination of Control Device Efficiency: Efficiency of the emissions control device, calculated in accordance with Section 204, shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25, or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable.

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RULE 239 GRAPHIC ARTS OPERATIONS

Adopted 11-03-94
(Amended 6-08-95, 2-13-97, 8-14-97)

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100 GENERAL

101 PURPOSE: To limit the emissions of volatile organic compounds from graphic arts operations.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply only to facilities located in the Sacramento Valley Air Basin portion of Placer County, as defined by California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 1.5, Article 1, Section 60106.

102.2 Operations: Except for the operations listed in Section 103, EXEMPTIONS, the provisions of this rule apply to all GRAPHIC ARTS OPERATIONS as defined in Section 213 and to any person who manufactures, sells, offers to sell, or supplies any graphic arts materials listed in Sections 301, 302, 303 and 305, STANDARDS. (GRAPHIC ARTS OPERATIONS are typically categorized under the Standard Industrial Classification (SIC) Codes of 27xx)

103 EXEMPTIONS:

103.1 Exemption, Partial, Low Emission Limit: Any graphic arts facility which emits less than 660 pounds of volatile organic compounds per calendar month from all graphic arts operations, including surface preparation and cleanup solvents, is exempt from all provisions of this rule with the exception of Section 501, USAGE RECORDS. Records required by Section 501, shall be maintained by these facilities to demonstrate their exemption status.

103.2 Exemption, Partial, Research and Test: Graphic arts operations used exclusively for research, laboratory analysis or determination of product quality and commercial acceptance, such as proof presses or other proofing systems, provided that total VOC emissions from all such equipment do not exceed 300 pounds per calendar month per facility, are exempt from all provisions of this rule, with the exception of Section 501, USAGE RECORDS. Records required by Section 501, shall be maintained by these facilities to demonstrate their exemption status.

103.3 Exemption, Screen Printing: Screen printing operations are exempt from all provisions of this rule.

103.4 Exemption From Rule 219: The provisions of Rule 219, Organic Solvents, shall not apply to Graphic Arts Operations as defined in Rule 239, Section 213.

200 DEFINITIONS

201 CAPTURE EFFICIENCY: Expressed in percent, capture efficiency is the ratio of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from graphic arts operations, both measured simultaneously in accordance with Section 502.5, and calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC discharged from the coating operations

202 COATING: The application of a uniform layer of material across the entire width of a substrate. Those machines which have both coating and printing units are considered to be performing a graphic arts operation.

203 CONTROL DEVICE: Equipment such as an incinerator or adsorber used to prevent air pollutants from reaching the ambient air.

204 CONTROL DEVICE EFFICIENCY: Expressed in percent, control device efficiency is the ratio of the weight of the VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously in accordance with Section 502.4, and calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

205 CONVERTING OPERATION: Coating, waxing, laminating, extrusion coating and printing, for fabrication of base materials. The base materials are then used to produce wraps, bags, and other preformed packages.

206 DOCTOR BLADE: A steel blade used to scrape excess ink from a printing plate.

207 DRYING OVEN: An oven used to hasten the process of drying printed or coated material.

208 EXEMPT COMPOUNDS: For the purposes of this rule, Exempt Compounds are as defined in Rule 102, Definitions.

209 FLEXIBLE PACKAGING INDUSTRY: Establishments that convert materials consisting of light gauge papers, plastic films, cellulosic films such as cellophane, thin gauge metal sheets such as aluminum foil or steel foil, and combinations thereof into a variety of product packages.

210 FLEXOGRAPHIC PRINTING: A printing operation in which words, designs, or pictures are applied to a substrate by means of a roll printing technique in which a raised pattern is applied to an image carrier made of rubber or other elastomeric materials mounted on a steel matting cylinder. The image is then printed directly from the raised pattern to the substrate.

211 FOUNTAIN SOLUTION: The solution applied to the image plate to maintain the hydrophilic properties of the non-image areas and to keep the non-image area free from ink.

212 FUGITIVE EMISSIONS: Emissions of VOC from any portion of Graphic Arts Operations as defined in Section 213, other than the drying oven.

213 GRAPHIC ARTS OPERATIONS: Publication gravure, packaging gravure, specialty gravure, flexographic printing operations, lithographic printing operations, letterpress printing operations, or any coating or laminating operation that manufactures flexible packaging

materials. Coating operations which are performed by a machine having only coating units and no printing units are not graphic arts operations.

- 214 GRAVURE PRINTING:** An intaglio printing operation in which the ink is transferred from minute etched wells which comprise the image on a plate to the substrate which is supported by an impression roller, with excess ink removed from the plate by a doctor blade.
- 215 INTAGLIO PRINTING:** A printing operation done from a plate in which the image is etched or engraved into the surface.
- 216 LAMINATING OPERATIONS:** A process of composing two or more layers of material to form a single multiple-layer sheet by using adhesive as the bonding agent.
- 217 LETTERPRESS PRINTING:** A printing operation in which the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.
- 218 LINE:** The minimum equipment which is required for the application and/or curing of inks and/or coatings on a substrate, including the ink and/or coating applicators and heating oven(s) and associated ink and coating mixing equipment.
- 219 LITHOGRAPHIC PRINTING:** A printing operation in which the image and non-image areas exist in the same plane. The non-image area is treated chemically so that only the image areas will be printed onto the substrate.
- 220 NON-HEATSET INK:** An ink which dries primarily by oxidation and absorption into the substrate without the use of heat from dryers or ovens, used primarily in lithographic and letterpress printing.
- 221 NONPOROUS SUBSTRATE:** Any substrate other than paper or paperboard, including but not limited to foil, polyethylene, polypropylene, cellophane, metalized polyester, nylon and polyethylene terephthalate (mylar), but not including wood, metal, or ceramic materials.
- 222 OFFSET PRINTING:** A lithographic printing operation in which the image area is transferred, or offset, to another surface, and then printed onto the substrate.
- 223 PACKAGING GRAVURE PRINTING:** A gravure printing operation on paper, paperboard, foil, film or other substrates which are to be used to produce containers or packages.
- 224 POROUS SUBSTRATE:** Paper or paperboard.
- 225 PRODUCTION UNIT:** A ream of paper, consisting of 500 sheets of paper.
- 226 PUBLICATION GRAVURE PRINTING:** A gravure printing operation on paper which is subsequently formed into books, magazines, catalogs, brochures, directories, newspaper supplements or other publication material.
- 227 SCREEN PRINTING:** A printing operation in which the printing ink passes through a refined form of stencil to a web or fabric. The stencil openings determine the form and dimension of the imprint.
- 228 SPECIALTY GRAVURE PRINTING:** A gravure printing operation for production of wall and floor covering, decorated household paper products such as towels and tissues, cigarette filter tips, vinyl upholstery, gift wrap, and woodgrains.

229 STANDARD INDUSTRIAL CLASSIFICATION (SIC): Number codes created by the U. S. Government Office of Management and Budget (OMB) to classify establishments by type of economic activity.

230 VOLATILE ORGANIC COMPOUNDS (VOC): Any chemical compound containing at least one atom of carbon except for the Exempt Compounds listed in Rule 102, Definitions.

231 VOC CONTENT OF FOUNTAIN SOLUTIONS, MAKEUP SOLVENTS, SURFACE PREPARATION SOLVENTS AND CLEANUP SOLVENTS: The weight of VOC per volume of material. It shall be determined using the appropriate test method pursuant to Section 502 and calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{W_m - W_w - W_{ec}}{V_m}$$

Where:

W_m = Weight of all volatile compounds in grams
 W_w = Weight of water in grams
 W_{ec} = Weight of exempt compounds in grams
 V_m = Volume of material in liters

232 VOC CONTENT OF INKS, COATINGS AND ADHESIVES: The weight of VOC per liter of material, less water and exempt compounds. It shall be determined using the appropriate test method pursuant to Section 502, and calculated by the following equation:

$$\text{Grams per Liter less Water and Exempt Compounds} = \frac{W_m - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:

W_s = Weight of volatile compounds in grams.
 W_w = Weight of water in grams.
 W_{es} = Weight of exempt compounds in grams.
 V_m = Volume of material in liters.
 V_w = Volume of water in liters.
 V_{es} = Volume of exempt compounds (as defined in Rule 102, Definitions), in liters.

233 WEB: A continuous sheet of substrate that is printed on web-fed printing presses.

234 WEB-FEED: An automatic system on a printing press which supplies a web substrate to the printing unit.

300 STANDARDS

301 GENERAL REQUIREMENTS: Any person operating equipment for GRAPHIC ARTS OPERATIONS as defined in Section 213, and any related coating, laminating or converting operations on porous or nonporous substrates, shall comply with one of the following requirements:

301.1 Use only low-VOC (Volatile Organic Compounds) inks, coatings, adhesives, and

fountain solutions as specified in Section 302 and 303, of this rule.

OR

301.2 Install and operate on the line, an approved emission control system pursuant to Section 304, with a control device efficiency of at least 95 percent on a mass basis, calculated in accordance with Section 204, and a capture efficiency of at least 70% on a mass basis, calculated in accordance with Section 201. (Note that the use of an approved emission control system does not eliminate the need to comply with the provisions of Section 305 of this rule.)

302 LOW-VOC INK, COATING AND ADHESIVE REQUIREMENT: Any person choosing to comply with this rule through the use of low-VOC inks, coatings, adhesives, or fountain solutions or makeup solvents, shall comply with the following requirement:

302.1 Use only inks, coatings, or adhesives, which contain, on an as-applied basis, 300 grams or less of VOC per liter (2.5 pounds per gallon) of material, less water and exempt compounds, calculated as defined in Section 232.

303 LOW-VOC FOUNTAIN SOLUTION AND MAKEUP SOLVENT REQUIREMENT: Any person choosing to comply with this rule through the use of low-VOC fountain solutions and makeup solvents, shall comply with the following requirement:

303.1 Use only fountain solutions and makeup solvents which contain, on an as-applied basis, 116 grams or less of VOC per liter (0.97 pounds per gallon) of material, calculated as defined in Section 231.

304 APPROVED EMISSION CONTROL SYSTEM: A system for reducing emissions of volatile organic compounds, approved by the Air Pollution Control Officer, and which satisfies both of the following conditions:

303.1 It includes a capture system which collects all drying oven exhaust and fugitive emissions from the line and transports them to the control device, **and**

303.2 It includes a control device designed and operated to achieve the efficiencies specified in Section 301.2, at all times during normal operation of the line being controlled.

305 SURFACE PREPARATION AND CLEANUP REQUIREMENTS: Any person using surface preparation and cleanup solvents for graphic arts operations shall comply with the following requirements:

305.1 Use only surface preparation solvents and cleanup solvents which contain, on an as-applied basis, 116 grams or less of VOC per liter (0.97 pounds per gallon) of material, calculated as defined in Section 231

305.2 Place all VOC-contaminated cloth, paper or other materials used for surface preparation and cleanup only in closed containers for storage or disposal.

305.3 Place and store all fresh or spent VOC-containing materials only in closed containers.

400 ADMINISTRATIVE REQUIREMENTS

401 OPERATION AND MAINTENANCE PLAN: Any person using an existing emission control

system pursuant to Section 304, as a means of complying compliance with this rule, as provided in Section 301, must shall submit, an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of compliance with this rule, shall submit in addition to an Operation and Maintenance Plan, an application for Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501.4, and 501.5. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

- 402 COMPLIANCE STATEMENT REQUIREMENT:** The manufacturer or distributor of all inks, coatings, adhesives, fountain solutions, makeup solvents, and surface preparation and cleanup solvents which are sold for use in graphic arts operations within the District shall include on product data sheets a designation of both the as-supplied VOC content (prior to any recommended dilution) and the as-applied VOC content (based on any recommended dilution) of each material. The VOC content of inks, coatings, and adhesives shall be given pursuant to Section 302.1. The VOC content of fountain solutions and makeup solvents, shall be given pursuant to Section 303.1. The VOC content of surface preparation and cleanup solvents shall be given pursuant to Section 305.1.

500 MONITORING AND RECORDS

- 501 USAGE RECORDS:** Any person subject to this rule, including owners or operators of facilities claiming exemption under Sections 102.1, and 102.2, shall comply with the following requirements:

- 501.1 The person shall maintain a current list of inks, coatings, adhesives, fountain solutions, makeup solvents (reducers, thinners), and surface preparation and cleanup solvents which states the VOC content of each, on an as-applied (press-ready) basis. The VOC content of inks, coatings, and adhesives shall be given pursuant to Section 302.1. The VOC content of fountain solutions and makeup solvents, shall be given pursuant to Section 303.1. The VOC content of surface preparation and cleanup solvents shall be given pursuant to Section 305.1.
- 501.2 For persons using graphic arts materials which comply with the VOC limits specified in Section 302, 303 and 305, records shall be maintained on a monthly basis, showing the type and volume of inks, coatings, adhesives, fountain solutions, and makeup solvents used, and solvents or other materials used for surface preparation, cleanup, or ink, coating, or adhesive removal.
- 501.3 For persons using graphic arts materials exceeding the VOC limits specified in Sections 302 and 303 and 305, and using a control system pursuant to Section 304, daily records shall be maintained of the type and volume of graphic arts materials used.
- 501.4 Operation and maintenance records as required by the Operation and Maintenance Plan in Section 401, shall be maintained by the source on a daily basis.
- 501.5 Records specified in Section 501 shall be retained on-site for two years and made available for review by the Air Pollution Control Officer upon request.

502 TEST METHODS

- 502.1 Analysis of Samples: Measurement of the volatile content in adhesives, coatings,

fountain solutions, makeup solvents, surface preparation and cleanup solvents, and all inks (except as provided for in Section 502.2) shall be made in accordance with EPA Method 24, or EPA Method 24A for publication rotogravure inks.

502.2 Analysis of Samples, Non-Heatset Polymerizing Lithographic Or Letterpress Inks:

Measurement of the volatile content shall be made in accordance with EPA Method 24. All components of the sample must be weighed in the proper proportion into the analysis container and mixed together, with the mixture then being allowed to stand for at least one hour, but no more than 24 hours, prior to being oven-dried at 110 degrees C for 1 hour.

502.3 Determination of Exempt Compounds: Exempt compounds, pursuant to Sections 208 and 230, shall be determined in accordance with ASTM Method D 4457-85 or ARB Method 432. If any of the perfluorocarbons are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

502.4 Determination Of Control Device Efficiency: Efficiency of the emission control device shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25 or 25A, for VOC concentration, and (2) U.S. EPA Method 2 or 2C for flow rates, as applicable, and calculated in accordance with Section 204.

502.5 Determination of Capture Efficiency: Efficiency of the capture system shall be determined in accordance with U.S. EPA AGuidelines for Determining Capture Efficiency, January 9, 1995". Individual capture efficiency test runs subject to the U.S. EPA technical guidelines, calculated in accordance with Section 201, shall be determined by:

503.4.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or

503.4.2 The South Coast Air Quality Management District AProtocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency@

503.4.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

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RULE 240 SURFACE PREPARATION AND CLEANUP

Adopted 06-08-95
(Amended 10-09-97)

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100 GENERAL

101 PURPOSE: The purpose of this rule is to reduce emissions of volatile organic compounds (VOC) from solvents used for surface preparation, maintenance and cleanup operations, and from the storage and disposal of all VOC-containing materials used in these operations.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 Business Category: This rule applies to all persons who engage in the production, repair, maintenance, or servicing of parts, products, tools, machinery, or equipment, and storage and disposal of VOC-containing materials used in solvent cleaning operations.

103 EXEMPTIONS:

103.1 Exemption, Janitorial Cleaning: Janitorial cleaning operations are exempt from all provisions of this rule.

103.2 Exemption, Operations Subject To Other Rules: The following operations are exempt from all provisions of this rule:

103.2.1 Cleaning carried out in batch-loaded cold cleaners, remote reservoirs, open-top vapor degreasers, conveyORIZED degreasers, or any other operations subject to Rule 216, Organic Solvent Cleaning and Degreasing Operations.

103.2.2 Coating and related operations subject to Rule 223, Metal Can Coating.

103.2.3 Cleaning operations subject to Rule 227, Petroleum Dry Cleaning Operations.

103.2.4 Coating and related operations subject to Rule 234, Automotive Refinishing Operations.

103.2.5 All operations subject to Rule 235, Adhesives, Rule 236, Wood Products Coating Operations and Rule 239, Graphic Arts Operations.

103.3 Partial Exemption, Wipe Cleaning Operations: Wipe cleaning used for any of the following applications is exempt from the provisions of Section 301:

103.3.1 Cleaning of solar cells, laser hardware, and high-precision optics.

103.3.2 Cleaning for conducting performance laboratory tests on coatings, or inks; research and development programs and laboratory tests in quality assurance laboratories.

103.3.3 Cleaning of polycarbonate plastics.

103.4 Partial Exemption, Aerosol Products: Usage of 160 fluid ounces or less per day per facility of aerosol products for cleaning is exempt from Sections 301 and 302.

103.5 Partial Exemption, Low Volume: Usage of 1.0 liter (1.1 quart) or less per day per facility, of solvents for cleaning, and which does not exceed 38 liters (10 gallons) per calendar year, is exempt from the provisions of this rule except for Record-keeping, Section 501.4.

200 DEFINITIONS

201 AEROSOL PRODUCT: Surface cleaner packaged in a hand-held, pressurized, nonrefillable container which expels product in a finely divided spray when a valve on the container is depressed.

202 APPURTENANCE: Any accessory to a stationary structure, whether installed or detached at the proximate site of installation, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, elevators, doors, partitions, stairways, fixed ladders, catwalks, fire escapes, fences, rain-gutters and down spouts, window screens, lamp-posts, heating and air conditioning equipment, pipes and piping systems, other fixed mechanical equipment, large fixed stationary tools, and concrete forms.

203 ARCHITECTURAL COATING: Any coating applied to stationary structures and their appurtenances, to portable buildings, to pavements or to curbs.

204 CAPTURE EFFICIENCY: In Emission Control Systems, capture efficiency is the ratio, in percent, of the weight of the VOC in the effluent stream entering a control device to the weight of the VOC emitted from cleaning operations, both measured simultaneously in accordance with Section 503.6, and calculated by the following equation:

$$\text{Capture Efficiency} = \frac{W_c}{W_e} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_e = Weight of VOC discharged from the cleaning operations.

205 CLOSED: No visible gaps.

206 CONTROL DEVICE EFFICIENCY: In Emission Control Systems, control device efficiency is the ratio, in percent, of the weight of the VOC removed by a control device from the process effluent stream entering the control device compared to the weight of VOC entering the control device, both measured simultaneously in accordance with Section 503.5, and calculated by the following equation:

$$\text{Control Device Efficiency} = \frac{(W_c - W_a)}{W_c} \times 100$$

Where: W_c = Weight of VOC entering the control device
 W_a = Weight of VOC discharged from the control device

207 ELECTRONIC ASSEMBLY: All portions of an assembly, including circuit card assemblies, printed wire assemblies, printing wiring boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except the actual cabinet in which the assembly is housed.

- 208 EMISSION CONTROL SYSTEM:** A system for reducing emissions of VOC from cleaning operations. It consists of (1) equipment which captures exhaust and fugitive emissions from the cleaner and transports them to (2) a VOC control device which destroys the VOC or otherwise limits the emission of VOC to the atmosphere. The capture efficiency and the control device efficiency are calculated in accordance with Sections 204 and 206, respectively.
- 209 ENCLOSED GUN CLEANER:**
- 209.1 A device used for the cleaning of spray guns, pots and hoses, which has an enclosed solvent container, is not open to the ambient air when in use, and has a mechanism to force the cleanup material through the gun while the cleaner is in operation; or
- 209.2 A device used for the cleaning of spray guns, pots and hoses, which has an enclosed solvent container, uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container.
- 210 EXEMPT COMPOUNDS:** For the purposes of this rule, exempt compounds are determined in accordance with Section 503.2, and are listed in Rule 102, Definitions.
- 211 FACILITY:** A business or businesses engaged in solvent cleaning operations which are owned or operated by the same person or persons and are located on the same or contiguous parcels.
- 212 JANITORIAL CLEANING:** The cleaning of building or facility components, such as the floor, ceiling, walls, windows, doors, stairs, bathrooms, etc.
- 213 LIQUID LEAK:** The visible liquid solvent leak from the container at a rate of more than three (3) drops per minute, or a visible liquid mist.
- 214 MAINTENANCE CLEANING:** A solvent cleaning operation or activity performed to keep parts product, tools, machinery, equipment (excluding application equipment, or general work areas), in clean and good operational condition.
- 215 MANUFACTURING PROCESS:** The process of making goods or articles by hand or by machinery.
- 216 NON-ABSORBENT CONTAINERS:** Containers made of nonporous material which do not allow the migration of the liquid solvent through them.
- 217 NON-ATOMIZED SOLVENT FLOW:** The use of a solvent in the form of a liquid stream without atomization to remove uncured inks, uncured coatings and contaminants from an article.
- 218 PERSON:** Any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or any other capacity including any governmental entity or charitable organization.
- 219 PRINTING:** Any operation that imparts color, design, alphabet, or numerals on a substrate.

- 220 REPAIR CLEANING:** A solvent-cleaning operation or activity performed during a repair process.
- 221 REPAIR PROCESS:** The process of returning a damaged object or an object not operating properly to good condition.
- 222 SOLVENT:** A VOC-containing liquid used to perform solvent cleaning operations.
- 223 SOLVENT CLEANING:** The removal of loosely held uncured inks, uncured coatings, and contaminants which include, but are not limited to: dirt, soil, and grease from parts, products, tools, machinery, and equipment. Each distinct method of cleaning in a cleaning process which consists of a series of cleaning methods shall constitute a separate solvent cleaning operation.
- 224 SOLVENT CONTAINER:** That part of a cleaning device that holds the solvent.
- 225 SOLVENT FLUSHING:** The use of a solvent to remove uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of the equipment by flushing solvent through the equipment.
- 226 STATIONARY SOURCE:** Any building, structure, facility, or emissions unit which emits or may emit any affected pollutant directly or as a fugitive emission. This includes all pollutant-emitting activities which:
- 226.1 Belong to the same industrial grouping, and
 - 226.2 Are located on one property or on two or more contiguous properties, and
 - 226.3 Are under the same or common ownership, operation, or control or which are owned or operated by entities which are under common control.
- Pollutant-emitting activities shall be considered as part of the same industrial grouping if they:
- 226.4 Belong to the same two-digit standard industrial classification code, or
 - 226.5 Are part of a common production process. (Common production process includes industrial processes, manufacturing processes and any connected processes involving a common material.)
- 227 STRIPPING:** The removal of cured coatings, cured inks, and cured adhesives.
- 228 SUBSTRATE:** The material upon which another material is coated or fabricated.
- 229 SURFACE PREPARATION:** The removal of contaminants such as dust, soil, oil, or grease, before coating or ink applications.
- 230 UNCURED COATINGS AND UNCURED INKS:** Coatings and inks that are not dry to the touch.

231 VOLATILE ORGANIC COMPOUND (VOC): Any chemical compound containing at least one atom of carbon, except for the Exempt Compounds listed in Rule 102, Definitions.

232 VOC COMPOSITE PARTIAL PRESSURE: The sum of the partial vapor pressures of the compounds defined as VOCs, as determined in accordance with Section 503.3, and calculated by the following equation:

$$PP_c = \frac{\sum_{i=1}^n (W_i)(VP_i) / MW_i}{\frac{W_w}{MW_w} + \sum_{i=1}^n \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

PP _c	=	VOC composite partial pressure at 20°C, in mm mercury.
W _i	=	Weight of the "i"th VOC compound, in grams, as determined by ASTM E 260-91.
W _w	=	Weight of water, in grams as determined by ASTM D 3792-86.
W _e	=	Weight of the "i"th exempt compound, in grams, as determined by ASTM E 260-91.
MW _i	=	Molecular weight of the "i"th VOC compound, in grams per g-mole, as given in chemical reference literature.
MW _w	=	Molecular weight of water, 18 grams per g-mole.
MW _e	=	Molecular weight of the "i"th exempt compound, in grams per g-mole, as given in chemical reference literature.
Vp _i	=	Vapor pressure of the "i"th VOC compound at 20°C, in mm Hg, as determined by the method in Section 503.4 of this rule.

233 VOC CONTENT PER LITER OF MATERIAL: The weight of VOC per liter shall be determined using the appropriate test method pursuant to Section 503.1, and calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{W_m - W_w - W_{ec}}{V_m}$$

Where:

W _m	=	Weight of all volatile compounds in grams
W _w	=	Weight of water in grams
W _{ec}	=	Weight of exempt compounds in grams
V _m	=	Volume of material in liters

234 WIPE CLEANING: The method of cleaning a surface by physically rubbing it with a material such as a rag, paper, or a cotton swab moistened with a solvent.

300 STANDARDS: The following standards shall apply to any person or stationary source subject to this rule:

301 SOLVENT REQUIREMENTS: A person shall not use a solvent to perform cleaning operations, including the use of cleaning devices or methods, unless it complies with the following applicable requirements :

301.1 Manufacturing Processes and Coating Adhesive, Or Ink Applications: The solvent used to clean substrates during the manufacturing process, or used for surface preparation of substrates before coating, adhesive, or ink applications shall have a VOC content equal to or less than 70 grams of VOC per liter of material, as calculated in accordance with Section 233.

301.2 Repair and Maintenance: Solvents used for repair or maintenance cleaning shall have a VOC content of 900 grams or less of VOC per liter of material, as calculated in accordance with Section 233, **and** a VOC composite partial pressure of 20 mm Hg or less at 20EC (68EF), as calculated in accordance with Section 232.

301.3 Coatings Application Equipment: Solvents used for cleaning coatings application equipment shall have a VOC content of 950 grams or less of VOC per liter of material, as calculated in accordance with Section 233 **and** a VOC composite partial pressure of 35 mm Hg or less at 20EC (68EF), as calculated in accordance with Section 232.

301.4 Electronic Assemblies: Solvents used for manufacturing or maintenance cleaning of electronic assemblies shall have a VOC content of 900 grams or less of VOC per liter of material, as calculated in accordance with Section 233, **and** a VOC composite partial pressure of 33 mm Hg or less at 20EC (68EF), as calculated in accordance with Section 232.

301.5 Polyester Resin Application: Solvents used for cleaning polyester resin application equipment shall comply with any one of the limits specified below:

301.5.1 The solvent shall have a VOC content of 200 grams or less VOC per liter of material, as calculated in accordance with Section 233.; or

301.5.2 The solvent shall have a VOC content of 1100 grams or less of VOC per liter of material, as calculated in accordance with Section 233, **and** a VOC composite partial pressure of 1.0 mm Hg or less at 20°C (68°F), as calculated in accordance with Section 232; or

301.5.3 In lieu of complying with either of the VOC limitations in Sections 301.5.1 and 301.5.2, above, a person may comply by using a solvent residue reclamation system. Reclamation may be done either on-site or off-site through a reclamation facility. The on-site reclamation system shall operate at least at 80 percent efficiency, by weight, and the solvent residues shall contain not more than 20 percent VOC, by weight.

302 CLEANING DEVICES AND METHODS: A person shall perform solvent cleaning operations using only one of the following cleaning devices or methods: and shall comply with the provision of Section 302.4.

302.1 Wipe cleaning.

302.2 Non-propellant spray bottles or containers.

302.3 An enclosed gun cleaner, as defined in Section 209.

302.4 Regardless of cleaning method, any spray discharge of solvent into the open air is prohibited at all times

303 EMISSION CONTROL SYSTEM: As an alternative to compliance with Sections 301 and 302, a person may use an Emission Control System associated with the solvent cleaning operation, approved by the Air Pollution Control Officer and which satisfies both of the following conditions:

303.1 The capture device shall collect at least 90 percent, by weight, of the VOC emissions generated by the solvent cleaning operation, (a Capture Efficiency of 90 percent, as defined in Section 204), **and**

303.2 The control device shall reduce VOC emissions from the emission capture system by at least 95 percent, by weight, (a Control Device Efficiency of 95 percent, as defined in Section 206).

304 STORAGE AND DISPOSAL: All VOC-containing materials used in solvent cleaning operations, such as solvents, and cloth and paper moistened with solvents, shall be stored in non-absorbent containers with no liquid leaks. Such containers shall be kept closed at all times except when filling or emptying.

400 ADMINISTRATIVE

401 OPERATION AND MAINTENANCE PLAN: A person using an emission control system pursuant to Section 303, as a means of alternate compliance with this rule, must submit an Operation and Maintenance Plan for the emission control system to the Air Pollution Control Officer for approval. A person proposing to install a new emission control system as a means of alternate compliance with this rule shall submit in addition to an Operation and Maintenance Plan, an application for Authority to Construct, pursuant to Rule 501, General Permit Requirements. The Plan shall specify operating and maintenance procedures which will demonstrate continuous operation of the emission control system during periods of emissions-producing operations. The Plan shall also specify which records must be kept to document these operating and maintenance procedures. These records shall comply with the requirements of Sections 501.2.2 and 501.3. The Plan shall be implemented upon approval of the Air Pollution Control Officer.

402 VIOLATIONS: Failure to comply with any provision of this rule shall constitute a violation of the rule.

500 MONITORING AND RECORDS

501 RECORD-KEEPING: Any person subject to this rule, shall comply with all of the following applicable requirements:

501.1 List of Materials: A current list of solvents in use shall be maintained and shall include all of the following items:

501.1.1 The product name and identification code of the solvent, and the specific application pursuant to Section 301.

501.1.2 The VOC content of the solvent, as determined pursuant to Section

502. 1., and the VOC composite partial pressure of the solvent as determined pursuant to Section 503.3.

501.1.3 Method of cleaning and cleaning device used with the solvent.

501.2 Usage Amounts:

501.2.1 For persons using materials which comply with the standards specified in Section 301, or using materials pursuant to Section 103.3, records shall be maintained on a monthly basis, showing the type and volume of solvents used.

501.2.2 For persons using materials exceeding the VOC and VOC composite partial pressure limits specified in Section 301, and using an Emission Control System pursuant to Section 303, or using materials pursuant to Section 103.4, records shall be maintained on a daily basis, showing the type and volume of solvents used.

501.3 Emission Control System: Any person using an Emission Control System pursuant to Section 303 shall maintain such records as required by Section 501.2.2 on a daily basis.

501.4 Low Volume Usage: Any person claiming partial exemption from this rule for low volume of solvent usage, pursuant to Section 103.5, shall maintain such records as required by Section 501.2.1 on a daily basis.

502 RETENTION OF RECORDS: All records required by this rule shall be retained on-site for at least two years, except for sources subject to Rule 507, Federal Operating Permit Program, which shall be retained for at least five years. Such records shall be made available to the Air Pollution Control Officer upon request.

503 TEST METHODS

503.1 Determination of VOC Content: VOC content of solvents shall be determined in accordance with United States Environmental Protection Agency (U.S. EPA) Method 24 and Sections 233 and 503.2 of this rule.

503.2 Determination Of Compounds Exempt From VOC Definition: Compounds exempt from the VOC definition, as listed in Rule 102, Definitions, shall be determined in accordance with ASTM D4457-85 or ARB Method 432. If any of the perfluorocarbons or volatile cyclic and linear methyl siloxanes are being claimed as exempt compounds, the person making the claim must state in advance which compounds are present, and the EPA-approved test method used to make the determination of these compounds.

503.3 Determination Of VOC Composite Partial Pressure: VOC composite partial pressure shall be determined in accordance with ASTM E260-91 for organic compounds, and ASTM D3792-86 for water content as applicable, and Sections 232, 503.1, 503.2 and 503.4 of this rule.

503.4 Determination of Vapor Pressure: Vapor pressure of a VOC shall be determined

in accordance with ASTM Method D2879-86, or may be obtained from a published source such as:

503.4.1 "The Vapor Pressure of Pure Substances", Boublik, Fried, and Hala; Elsevier Scientific Publishing Company, New York, 1973.

503.4.2 "Perry's Chemical Engineer's Handbook", McGraw-Hill Book Company, 1984.

503.4.3 "CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company, 1986-87.

503.4.4 "Lange's Handbook of Chemistry", John Dean, ed., McGraw-Hill Book Company, 1985. DETERMINATION OF SOLVENT COMPONENTS: The identity of components in solvents shall be determined by U.S. EPA Method 18.

503.5 Determination of Control Device Efficiency: Efficiency of the emission control device shall be based upon test measurements made in accordance with (1) U.S. EPA Method 18, 25 or 25A, for VOC concentration, and (2) EPA Method 2 or 2C (whichever is applicable) for flow rates, and calculated in accordance with Section 206.

503.6 Determination of Capture Efficiency: Collection efficiency shall be determined in accordance with U.S. EPA "Guidelines for Determining Capture Efficiency, January 9, 1995", calculated in accordance with Section 204, shall be determined by:

503.6.1 Applicable U.S. EPA methods 204, 204A, 204B, 204C, 204E, and/or 204F; or

503.6.2 The South Coast Air Quality Management District AProtocol for Determination of Volatile Organic Compound (VOC) Capture Efficiency@

503.6.3 Any other method approved by the U.S. EPA, the California Air Resources Board, and the Air Pollution Control Officer.

503.7 Multiple Test Methods: When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods shall constitute a violation of this rule.

503.8 Test Method Updates: Future approved revisions of any test methods referenced in Section 503 shall then become the applicable versions with respect to this rule.

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RULE 241 BOILERS AT PLASTIC LAMINATE MANUFACTURING FACILITIES

Adopted 04-08-99

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April 8, 1999

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100 GENERAL

101 PURPOSE: To limit the emissions of Nitrogen Oxides (NOx) from boilers and steam generators fueled with a combination of natural gas and waste fuel from paper treating operations at plastic laminate manufacturing facilities.

102 APPLICABILITY

102.1 Geographic: The provisions of this rule apply to facilities in all of Placer County.

102.2 Business Category: This rule applies to boilers and steam generators that have a primary energy source of natural gas and waste fuel from paper treating operations at plastic laminate manufacturing facilities with Standard Industrial Classification (SIC) of 3083.

103 EXEMPTIONS

103.1 Exemption, Boilers, Steam Generators, and Process Heaters: This rule shall not apply to boilers, steam generators, and process heaters subject to Rule 231, Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters. Boilers at plastic laminate manufacturing facilities that use gaseous or liquid fuels exclusively shall be subject to Rule 231.

103.2 Exemption, Boilers and Steam Generators Subject to Rule 241: Rule 231 shall not apply to boilers subject to Rule 241.

103.3 Exemption, Municipal Solid Waste: This rule shall not apply to combustion units whose primary purpose is to burn municipal solid waste, as defined in Section 201.

200 DEFINITIONS

201 MUNICIPAL SOLID WASTE: Municipal waste includes household, commercial/retail, or institutional waste. Household waste includes material discarded by single or multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, prisons, and government facilities and other similar establishments or facilities.

202 NOX EMISSIONS: The sum of nitric oxides and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide (NO₂).

203 PAPER TREATING OPERATIONS: A paper coating process in which a uniform layer of phenolic or melamine resin is applied either by (a) dipping a continuous, moving paper substrate into the resin and then using rollers to squeeze the excess resin from the paper, or (b) applying the resin directly to the paper substrate with a roll applicator. Paper treating operations also include lamination of resin-impregnated paper and trimming, cutting, and sanding of laminated sheets and related processes.

204 PARTS PER MILLION BY VOLUME (PPMV): The ratio of the number of gas molecules of a given species, or group, to the number of millions of total gas molecules.

205 RESPONSIBLE OFFICIAL: An individual with the authority to certify that a source complies with all applicable requirements, including the conditions of permits issued to sources in accordance with Regulation 5, PERMITS. A "responsible official" means one of the following:

205.1 For a corporation, a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

205.1.1 The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or

205.1.2 The delegation of authority to such representative is approved in advance by the Air Pollution Control Officer.

205.2 For a partnership or sole proprietorship, a general partner or the proprietor, respectively; or

205.3 For a municipality, state, federal, or other public agency, either a principal executive officer or a ranking elected official; or

205.4 For an acid rain unit subject to Title IV (Acid Deposition Control) of the Clean Air Act, the "responsible official" is the designated representative of that unit for any purposes under Title V and Rule 507, Federal Operating Permits Program.

206 WASTE FUEL: Material from trimming, cutting and sanding of laminated sheets of resin impregnated paper.

207 UNIT: Any boiler or steam generator subject to this rule.

300 STANDARDS

301 LIMITATIONS

301.1 No person shall allow the discharge of NOX emissions into the atmosphere from a unit subject to this rule in excess of the following limitations, whichever is less stringent:

301.1.1 An exhaust concentration of 150 parts per million by volume (ppmv) referenced at dry stack-gas conditions and 3.00 percent by volume stack-gas oxygen on a three-hour average basis.

301.1.2 An exhaust emission rate of 15.5 pounds per hour on a three-hour average basis.

301.2 No person shall allow the discharge of carbon monoxide (CO) emissions from units subject to this rule in excess of 400 parts per million by volume (ppmv) referenced at dry stack-gas conditions and 3.00 percent by volume stack-gas oxygen, on a three-hour average basis.

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE

401.1 Any person operating a unit subject to this rule shall demonstrate full compliance with the requirements of Section 301 by November 26, 1999.

401.2 Any person operating a unit subject to this rule shall demonstrate compliance with the requirements of Section 301 in accordance with the following schedule:

401.2.1 By August 31, 1999, complete all modifications necessary to allow compliance with the requirements of this rule.

401.2.2 By September 30, 1999, complete compliance source tests in accordance with Section 502.

401.2.3 By November 26, 1999, achieve full compliance with the requirements of Section 301.

402 OPERATION AND MAINTENANCE PLAN: Any person operating a unit subject to this rule shall submit an Operation and Maintenance Plan by September 30, 1999.

402.1 The Operation and Maintenance Plan shall specify:

402.1.1 Operation and maintenance procedures that will demonstrate continuous operation of the emission control system during emission-producing operations; and

402.1.2 Records that must be kept to document the operation and maintenance procedures.

402.2 All records must comply with Section 501.

402.3 A revised Operation and Maintenance Plan shall be submitted or resubmitted in conjunction with any changes in the procedures addressed in the plan, or upon the request of the Air Pollution Control Officer.

403 COMPLIANCE COSTS: A person operating a unit subject to this rule shall bear all expenses associated with compliance with the monitoring and reporting provisions of this rule.

404 CERTIFICATION: All reports and plans submitted in accordance with this rule shall be signed by a responsible official who shall certify the truth, accuracy, and completeness of the report.

500 MONITORING AND RECORDS

501 RECORD-KEEPING: A person operating a unit subject to this rule shall keep the following records for each unit:

501.1 Calendar date of record.

501.2 Number of hours the unit is operated during each day.

501.3 Boiler steam load.

501.4 Fuel types, including gaseous, liquid, or solid fuels, and amounts on a monthly basis.

501.5 Duration of startups and shutdowns.

501.6 Type and duration of maintenance and repairs.

501.7 Results of compliance tests.

502 COMPLIANCE TESTS

502.1 A person operating a unit subject to this rule shall conduct an initial compliance test no later than September 30, 1999. Additional source testing may be required by the Air Pollution Control Officer as necessary to ensure compliance with the standards set forth in Section 301. Compliance source testing is required on an annual basis for sources subject to Rule 507, Federal Operating Permit Program.

April 8, 1999

502.1.1 All source tests shall be made in the as-found operating condition, except that source tests shall include at least one test conducted at the maximum feasible firing rate allowed by the District permit. No source test shall be conducted within two hours after a continuous period in which fuel flow to the unit is zero, or shut off, for thirty minutes or longer.

502.1.2 The compliance tests shall be conducted for Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Carbon Dioxide (CO₂), and Oxygen (O₂) using the test methods specified in Section 503.

502.2 At least thirty (30) days prior to the compliance source tests, a written test plan detailing the test methods and procedures to be used shall be submitted for approval by the Air Pollution Control Officer. The plan shall cite the test methods to be used for the determination of compliance with the emission limitations of this rule. The plan shall provide the proposed procedures for the characterization of the waste materials to be burned during testing.

502.3 A report of the compliance test shall be submitted to the District within sixty (60) days of completion of the source test.

503 TEST METHODS: A person conducting source tests in accordance with Section 502 shall use the following test methods:

503.1 Nitrogen Oxides (NO_x): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 7E, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

503.2 Carbon Monoxide (CO): ARB Test Method 10, Title 17, CCR, Section 94109, Determination of Carbon Monoxide Emissions from Stationary Sources, or ARB Test Method 100, or EPA Test Method 10, 40 CFR 60, Appendix A. A violation determined by any of these test methods shall constitute a violation of this rule.

503.3 Oxygen (O₂): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 3A, 40 CFR 60, Appendix A.

503.4 Carbon Dioxide (CO₂): ARB Test Method 100, Title 17, CCR, Section 94114, Procedures for Continuous Emission Stack Sampling, or EPA Test Method 3A, 40 CFR 60, Appendix A.

504 EMISSION REDUCTION CREDITS: For the purpose of Rule 504, Emission Reduction Credits, emission reductions from such shutdown or modification or from a reduction of waste fuel shall be considered surplus only to the extent that the historical actual emissions do not exceed those which would be achieved by a boiler operating in compliance with Rule 231. Reductions in emissions from retrofitting a boiler to meet the requirements of Rule 241 shall not be available as emission reduction credits.

505 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from date of entry, with the exception that sources subject to the requirements of Rule 507, Federal Operating Permit Program, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

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RULE 244 SEMICONDUCTOR MANUFACTURING OPERATIONS

Adopted 02-09-95

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100 GENERAL

- 101 DESCRIPTION:** The purpose of this Rule is to limit the emissions of precursor organic compounds from semiconductor manufacturing operations. For the purpose of this Rule, semiconductor manufacturing operations are limited to the manufacture of semiconductor and other related integrated circuits.
- 102 EXEMPTION, SMALL SEMICONDUCTOR OPERATION:** The provisions of Sections 302, and 501 shall not apply to any facility whose total combined negative photoresist maskant and negative photo resist developer consumption is less than 24 gallons per month on a facility wide basis and provided the requirements of Section 402 and Section 502 are met.
- 103 EXEMPTION, SOLVENT CLEANERS:** The provisions of Sections 301 and 302 shall not apply to any vapor degreaser or cold cleaner utilizing solvent flow or with a capacity greater than 10 gallons. Such vapor degreasers or cold cleaners are subject to REGULATION 2, RULE 216, ORGANIC SOLVENT CLEANING AND DEGREASING OPERATIONS.
- 104 EXEMPTION, COMPOUNDS WITH LOW VOLATILITY:** All compounds with an initial boiling point greater than 150EC (302EF) and where the initial boiling point exceeds the actual operating temperature by at least 100EC (180EF) are exempt from the requirements of Section 302.3.

200 DEFINITIONS

- 201 FREEBOARD HEIGHT:** The distance from the top of the solvent or solvent drain to the top of the sink.
- 202 FREEBOARD RATIO:** The freeboard height divided by the smaller of the length or width of the sink or reservoir.
- 203 MASKING:** Application of a maskant material to a wafer to increase or decrease the masked area's resistance to chemical milling.
- 204 ORGANIC COMPOUND:** Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide carbonic acid, metallic carbides or carbonates and ammonium carbonate.
- 205 EXEMPT ORGANIC COMPOUNDS:** For the purposes of this rule, exempt compounds are the following:
- 205.1 Methane
 - 205.2 Carbon dioxide
 - 205.3 Carbon monoxide
 - 205.4 Carbonic acid
 - 205.5 Metallic carbides or carbonates
 - 205.6 Ammonium carbonate
 - 205.7 1,1,1-trichloroethane
 - 205.8 Methylene chloride
 - 205.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
 - 205.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
 - 205.11 Trichlorofluoromethane (CFC-11)
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 - 205.13 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113)
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- 205.16 Pentafluoroethane (HFC-125)
- 205.17 1,1,2,2-tetrafluoroethane (HFC-134)
- 205.18 Tetrafluoroethane (HFC-134a)
- 205.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 205.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 205.21 1,1,1-trifluoroethane (HFC-143a)
- 205.22 Chlorodifluoromethane (HCFC-22)
- 205.23 Trifluoromethane (HFC-23)
- 205.24 Difluoroethane (HFC-152a)
- 205.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

- 206 PHOTORESIST LINE:** Equipment used to apply and develop photoresist masking solution on a wafer. Process includes preparation (except primary cleaning), soft bake, develop and hard bake.
- 207 PHOTORESIST, NEGATIVE:** Maskant hardens when exposed to light. Unhardened maskant is stripped, exposing wafer surface to etching. Typically uses xylene formulated resin and developer solutions.
- 208 PHOTORESIST, POSITIVE:** Maskant softens when exposed to light. Softened maskant is stripped, exposing wafer surface for etching. Typically uses cellosolves for primer and resin carrier with caustic type developer.
- 209 SEMICONDUCTOR MANUFACTURE:** Any operation performed in order to manufacture semiconductor or related solid state devices, such as semiconductor diodes and stacks, and including rectifiers, integrated microcircuits, transistors, solar cells, and light sensing and emitting devices. Semiconductor manufacture includes all processing from crystal growth through circuit separation and encapsulation. Examples of semiconductor operations are: crystal growth, diffusion operations, photoresist operations, wafer processing, etching, etc.
- 210 SOLVENT CLEANING STATION:** Any operation whose primary purpose is to remove surface contaminants or to remove photoresist using a liquid or vapor containing organic compounds.
- 211 LIQUID SOLVENT LEAKS:** A liquid leak of four drops or more per minute from secondary containment.
- 212 CONTAINERS:** For the purposes of Section 301 and Section 302, a container is defined as having a total volume of 1 liter (0.264 gal) or less. Any container with a volume greater than 1 liter is considered a reservoir.

300 STANDARDS

- 301 NEGATIVE PHOTORESIST OPERATIONS:** All exhaust gases containing precursor organic vapors from negative photoresist operations shall be vented to control devices which reduce the total emission of precursor organic compounds to the atmosphere by at least 90 percent by weight.
- 302 SOLVENT CLEANING STATION LIMITS:** A person shall not operate a solvent cleaning station at a semiconductor manufacturing facility unless exhaust organic vapors are vented to control devices that reduce the total emissions of precursor organic compounds to the atmosphere by at least 90% by weight or the following requirements are met:
- 302.1 All unheated containers, reservoirs and sinks containing precursor organic compounds shall be provided with a cover. These covers must remain closed unless production, sampling, maintenance, loading or unloading procedures require operator access.
 - 302.2 All unheated reservoirs and sinks containing acetone, isopropyl alcohol, methyl alcohol, methyl ethyl ketone, or trichloroethylene shall have a freeboard ratio greater than or equal to 0.75.
 - 302.3 All heated reservoirs, sinks, or containers containing precursor organic compounds shall be provided with a cover as described in Section 302.1. In addition, heated reservoirs and sinks must also have a freeboard ratio greater than or equal to 0.75.
 - 302.4 The capacity of all vapor degreasers and cold cleaners shall be clearly marked by suitable physical or mechanical means.
 - 302.5 Precursor organic compounds including waste solvents, shall not be stored or disposed of in a manner that will allow evaporation into the atmosphere. Storage of organic compounds in tanks which comply with Rule 212, STORAGE OF PETROLEUM PRODUCTS, constitutes compliance with Section 302.5.
 - 302.6 All equipment at a solvent cleaning station shall be operated and maintained in proper working order.
 - 302.7 Liquid solvent leaks shall be repaired immediately or the equipment shall be shut down until repaired.

400 ADMINISTRATIVE REQUIREMENTS

- 401 RESERVOIRS AND SINKS COMPLIANCE SCHEDULE:** Any existing facility subject to Section 302 of this Rule shall comply with the following increments of progress:
- 401.1 Submit plan for compliance by March 1, 1996.
 - 401.2 Submit to the APCO a complete application for an Authority to Construct for necessary equipment modifications on or before March 1, 1997.
 - 401.3 Complete on-site construction of equipment modifications on or before March 1, 1998.
 - 401.4 Demonstrate final compliance on or before March 1, 1999.

402 SMALL SEMICONDUCTOR OPERATION PETITION: Any person seeking to satisfy the conditions of Section 102 shall comply with the following requirements:

402.1 A written petition for exemption shall be submitted to the APCO, showing the total combined net usage of negative photoresist maskant and negative photoresist developer, is less than 24 gallons per month for the facility. The written petition must be submitted to the APCO by March 1, 1996.

402.2 If the APCO grants written approval, such petition will be repeated every July 1, on an annual basis.

500 MONITORING AND RECORDS

501 ANNUAL REPORTING: Any person subject to Sections 301 or 302 of this Rule shall report the following on an annual basis, prior to renewal of Permits to Operate:

501.1 Quantity of each of the following liquid organic compounds purchased during the previous 12 months for use in semiconductor manufacturing.

Xylene
n-Butyl Acetate
Acetone
Isopropyl Alcohol
Methyl Ethyl Ketone
Trichloroethylene
All other precursor organic compounds (total)
Methylene Chloride
1,1,1 Trichloroethane
All other non-precursor organic compounds (total)

501.2 Separate totals of precursor and non-precursor organic compounds disposed of or reclaimed in liquid form from semiconductor manufacturing operations during the previous 12 months.

502 RECORDS: Any person seeking to satisfy the conditions of Section 102 shall comply with the following requirements:

502.1 A weekly record shall be kept showing the facility wide combined net usage of negative photoresist maskant and negative photoresist developer.

502.2 Such records shall be maintained and be available for inspection by the APCO for the previous 24 month period.

503 NEGATIVE PHOTORESIST SOURCE TESTS: Any person subject to Section 301 shall conduct a source test of the abatement device to demonstrate compliance. Results of the tests shall be submitted within 90 days of (Date of adoption by the Board of Directors), or 90 days after start up of affected equipment, whichever is later. The APCO shall be contacted in writing no less than 15 days prior to testing. Equipment that has previously undergone a District approved source test and successfully demonstrated compliance under Rule 244 requirements need not be retested.

504 TEST METHODS

504.1 Determination Of Abatement Efficiency: Abatement Efficiency of precursor organic compounds as specified in Section 302 shall be measured as prescribed by EPA Method 25 or 25A. A source shall be considered in violation if the VOC

emissions measured by any of the test methods exceed the standards of this rule.

RULE 246 NATURAL GAS-FIRED WATER HEATERS

Adopted 6-19-97

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June 19, 1997

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100 GENERAL

101 PURPOSE: To limit the emission of nitrogen oxides (NO_x) from natural gas-fired water heaters.

102 APPLICABILITY:

102.1 Geographic: The provisions of this rule apply to all of Placer County.

102.2 General: This rule shall apply to any person who manufactures, distributes, offers for sale, sells, or installs any natural gas-fired water heater with a rated heat input capacity less than 75,000 British Thermal Units per hour (BTU/hr), for use in this District.

103 EXEMPTIONS:

103.1 Exemption, Large Natural Gas-Fired Water Heaters: Water heaters with a rated heat input of 75,000 BTU/hr or greater are exempt from all provisions of this rule.

103.2 Exemption, Recreational Vehicles: Natural gas-fired water heaters used in recreational vehicles are exempt from all provisions of this rule.

103.3 Exemption, Swimming Pools and Hot Tubs: Natural gas-fired water heaters used exclusively to heat swimming pools and hot tubs are exempt from all provisions of this rule.

103.4 Exemption, Other Fuels: Water heaters using any fuel other than natural gas are exempt from all provisions of this rule.

200 DEFINITIONS

201 BRITISH THERMAL UNIT: The amount of heat energy required to raise the temperature of one pound of water from 59° F to 60° F at one atmosphere pressure

202 HEAT INPUT: The amount of heat energy released by natural gas burned in a natural gas-fired water heater. It is calculated during certification testing in accordance with the test method referenced in Section 502.

- 203 HEAT OUTPUT:** The amount of heat energy, H_o , in British Thermal Units (BTU), absorbed by the water being heated during the process of natural gas-fired water heater testing in accordance with the protocol referenced in Section 502. It is calculated using the following equation:

$$H_o = MC_{pi} (T_{del} - T_{in}) + V_{st} D_n C_{p2} (T_{max} - T_o)$$

Where:

- H_o = Heat output, in BTU
- M = Mass of the water withdrawn, in pounds
- C_{pi} = Specific heat of water at the average temperature $[(T_{del} + T_{in}) / 2]$, BTU per pound per $^{\circ}F$
- T_{del} = Average delivery temperature, $^{\circ}F$.
- T_{in} = Average inlet temperature, $^{\circ}F$.
- V_{st} = Storage tank capacity, in gallons, as determined in Section 212
- D_n = Density of water at the average temperature $[(T_{max} + T_o)/2]$, pounds per gallon
- C_{p2} = Specific heat of water at the average temperature, $[(T_{max} + T_o)/2]$, BTU per pound per $^{\circ}F$.
- T_{max} = Maximum mean tank temperature recorded after cutout following the test draw, $^{\circ}F$.
- T_o = The maximum mean tank temperature recorded prior to the test draw, $^{\circ}F$.

- 204 JOULE:** A unit of heat energy output equal to 9.4799×10^{-4} BTU.
- 205 MOBILE HOME:** A residential dwelling, designed and manufactured to be movable from site to site as desired by the owner/occupant, and that is not a Recreational Vehicle as defined in Section 211.
- 206 MOBILE HOME WATER HEATER:** A natural gas-fired water heater manufactured exclusively for mobile home use.
- 207 NANOGRAM:** A unit of mass equal to one billionth of a gram, or 10^{-9} gram.
- 208 NATURAL GAS:** A mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined according to American Standard Test Method (ASTM) D1945-64.
- 209 NATURAL GAS-FIRED WATER HEATER:** A closed vessel in which water is heated by the combustion of natural gas and is withdrawn for use external to the vessel at pressures not exceeding 160 psig, including the apparatus by which heat is generated and all controls and devices necessary to prevent water temperatures from exceeding $210^{\circ} F$ ($99^{\circ} C$).
- 210 RATED HEAT INPUT CAPACITY:** The heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different from the heat input capacity specified on the nameplate, the actual heat input capacity, as certified by the Manufacturer or Certified technician, shall be considered as the rated heat input capacity.
- 211 RECREATIONAL VEHICLE:** A motor home, travel trailer, truck camper, or camping trailer,

with or without motive power, designed for human habitation for recreational, emergency, or other occupancy, and which meets all of the following criteria: (1) contains less than 320 square feet of internal living room area, excluding built-in equipment, including, but not limited to wardrobe, closets, cabinets, kitchen units or fixtures, and bath or toilet rooms; (2) contains 400 square feet or less of gross area measured at maximum horizontal projections; (3) is built on a single chassis and (4) is either self propelled, truck mounted, or permanently towable on the highways without a permit.

- 212 STORAGE TANK CAPACITY:** The capacity of the natural gas-fired water heater in gallons. It is calculated using the following equation:

$$V_{st} = (W_f - W_t) / D_s$$

Where: V_{st} = Storage capacity of the water heater, in gallons
 W_f = Weight of the water heater completely filled with water, in pounds
 W_t = Weight of the empty water heater, in pounds
 D_s = Density of water at the test temperature, in pounds per gallon

- 213 SWIMMING POOLS AND HOT TUBS:** (For the purposes of Section 103.4 of this rule) Residential only, single-dwelling, recreational and personal therapeutic equipment, including in-ground swimming pools, above-ground swimming pools, spas and hot tubs.

300 STANDARDS

- 301 NITROGEN OXIDES EMISSION LIMIT:** A person shall not distribute, offer for sale, sell or install, any natural gas-fired water heater within the District, unless it meets either of the following standards:

- 301.1 A natural gas-fired water heater that emits less than or equal to 40 nanograms of nitrogen oxides [calculated as NO_2] per joule (93 pounds per billion BTU) of heat output; and is certified in accordance with Section 402.
- 301.2 A mobile home natural gas-fired water heater that emits less than or equal to 50 nanograms of nitrogen oxides [calculated as NO_2] per joule (116 pounds per billion BTU) of heat output; and is certified in accordance with Section 402.

400 ADMINISTRATIVE REQUIREMENTS

- 401 COMPLIANCE SCHEDULE:** Effective January 1, 1998, no person shall distribute, offer for sale, sell or install any natural gas-fired water heater which does not comply with the requirements of Section 300.

402 CERTIFICATION REQUIREMENT:

- 402.1 A manufacturer of any natural gas-fired water heater subject to Section 300 shall submit to the Air Pollution Control Officer (APCO) at least 30 days prior to sale, a statement obtained from an independent testing laboratory, certifying that the laboratory tested the unit in accordance with the method in Section 502 of this rule, and that it is in compliance with the provisions of Section 300. The statement shall be signed and dated, and shall attest to the accuracy of all information. The statement shall include the brand name, model number, the heat input capacity rating as it appears on the water heater rating plate, and test results in accordance with Section 502;

OR

402.2 A manufacturer shall submit to this District an approved South Coast Air Quality Management District (SCAQMD) certification obtained from an independent testing laboratory. Any model of natural gas-fired water heater certified as complying with the SCAQMD Rule 1121 prior to July 1, 1995, need not be recertified to the test protocol specified in Section 502 until such time as required by the SCAQMD.

402.3 A manufacture shall submit a new certification or certification statement meeting the requirements of Section 402.1 or Section 402.2 for any natural gas-fired water heater, the design of which is changed in any manner which may alter the emissions from the water heater. New certifications or certification statements, for either altered or new models, shall be submitted to the APCO at least 30 days before the water heater is offered for sale in the District.

403 MANUFACTURERS- LABELING REQUIREMENT: A manufacturer shall display the model number of the water heater complying with Section 300 on the shipping carton and on the rating plate of each water heater unit. The manufacturer shall also display the certification status on the shipping carton and on the water heater. A label stating "Certified per South Coast Air Quality Management District, Rule 1121" or equivalent language, will meet the shipping carton label requirement of this section.

500 MONITORING AND RECORDS

501 RETENTION OF RECORDS: A manufacturer shall keep test data, calculations, reports and other certification records for as long as the water heater model is offered for sale or sold in the District, or for three calendar years after manufacture, whichever is longer. These records shall be made available to the Air Pollution Control Officer upon request.

502 TEST METHOD: Any natural gas-fired water heater distributed, offered for sale, sold, or installed within the District Shall be tested in accordance with the South Coast Air Quality Management District Protocol: ANitrogen Oxides Emission Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers, January 1995".

RULE 250 STATIONARY GAS TURBINES

Adopted 10-17-94

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100 GENERAL

- 101 PURPOSE:** The purpose of this rule is to limit NOx emissions from stationary gas turbines in conformance with BARCT determinations approved by the California Air Resources Board to meet the requirements of the California Clean Air Act.
- 102 APPLICABILITY:** Except as provided in Sections 110 and 111, this rule shall apply to all stationary gas turbines, 0.3 megawatt (MW) and larger.
- 110 EXEMPTION - LABORATORY, FIREFIGHTING/FLOOD CONTROL, AND PIPELINE UNITS:** The provisions of this rule with the exception of Section 402.3 shall not apply to the operation of stationary gas turbines used under the following conditions:
- 110.1 Laboratory units used in research and testing for the advancement of gas turbine technology.
 - 110.2 Units operated exclusively for firefighting and/or flood control.
 - 110.3 Pipeline gas turbines provided that the owner/operator demonstrates to the satisfaction of the Air Pollution Control Officer that water or steam injection, selective catalytic reduction, or any other emission control technology is not technologically feasible, cost effective or creates adverse environmental impacts such as those associated with the use, transport, or disposal of supplies such as water and ammonia.
 - 110.4 Chemical processing gas turbine units.
- 111 EXEMPTION - EMERGENCY STANDBY AND SMALL UNITS:** The provisions of this rule with the exception of Sections 402.3, 403, and 502.5 shall not apply to the operation of stationary gas turbines used under the following conditions:
- 111.1 Emergency standby units demonstrated to operate less than 200 hours per calendar year.
 - 111.2 Units of less than 4 MW operating less than 877 hours per calendar year.

200 DEFINITIONS

- 201 BARCT:** "Best Available Retrofit Control Technology" as defined in Section 40406 of the California Health and Safety Code as an "emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source".
- 202 CHEMICAL PROCESSING GAS TURBINE UNIT:** A stationary gas turbine that vents its exhaust gases into the operating stream of a chemical process.
- 203 COMPLIANCE LIMIT:** Allowable NOx emissions expressed in parts per million by volume (ppmv).
- 204 CONTROL SYSTEM OPERATING PARAMETERS:** Operating parameters that the Air Pollution Control Officer deems necessary to analyze when determining compliance, such as ammonia and exhaust flow rates and exhaust gas temperature for SCR; of humidity, water injection rate, exhaust gas flow rate, and temperature for water injection.

- 205 EMERGENCY STANDBY UNIT:** A stationary gas turbine that operates only as a mechanical or electrical power source for a facility when the primary power source has been rendered inoperable due to a failure beyond the reasonable control of the operator, except due to power interruption pursuant to a voluntary interruptible power supply agreement. Electricity generated by such a unit cannot be sold.
- 206 HHV:** The higher heating value of a fuel.
- 207 LHV:** The lower heating value of the fuel.
- 208 MEASURED NO_x EMISSIONS CONCENTRATION:** The concentration of NO_x emissions corrected to International Standards Organization (ISO) standard conditions:

$$\text{NO}_x = (\text{NO}_{x\text{obs}})(P_{\text{ref}}/P_{\text{obs}})^{0.5}(288^\circ/\text{T}_{\text{amb}})^{1.53}[e^{19(\text{Hobs}-0.00633)}]$$

Where:

- No_x = Emissions of NO_x at 15 percent oxygen and ISO standard conditions on a dry basis, ppm.
- No_{xobs} = Measured NO_x emissions corrected to 15 percent oxygen on a dry basis, ppm.
- P_{ref} = Standard reference pressure, 14.696 psia.
- P_{obs} = Measured site ambient absolute pressure, psia.
- H_{obs} = Measured humidity of ambient air, pounds water per pound dry air.
- e = Transcendental constant (2.718).
- T_{amb} = Measured temperature of ambient air, degrees K.

or an alternate correlation that corrects to ISO standard conditions and is approved by the Air Pollution Control Officer.

- 209 NO_x EMISSIONS (No_x):** The sum of nitric oxides and nitrogen dioxide in the exhaust gas stream.
- 210 PIPELINE GAS TURBINES:** A stationary gas turbine used to transport gases or liquids in a pipeline.
- 211 POWER AUGMENTATION:** An increase in the gas turbine shaft output and/or the decrease in gas turbine fuel consumption by the addition of energy recovered from exhaust heat.
- 212 PUBLIC SERVICE UNIT:** A gas turbine used to generate electricity for sale or for use in serving the public.
- 213 RATING:** The continuous megawatt (MW) rating or mechanical equivalent by a manufacturer for gas turbine(s) without power augmentation.
- 214 SELECTIVE CATALYTIC REDUCTION (SCR):** A post combustion control technology that utilizes ammonia injected into the exhaust gas stream where it reduces NO_x to molecular nitrogen in the presence of a catalyst.
- 215 STATIONARY GAS TURBINE:** Any gas turbine system that is gas and/or liquid fueled with or without power augmentation. This unit is either attached to a foundation at a facility or is portable equipment operated at a specific facility for more than 90 days in any 12-month period. Two or more gas turbines powering one shaft shall be treated as one unit.
- 216 THERMAL STABILIZATION PERIOD:** The two hour start-up time necessary to bring the heat recovery steam generator to the proper temperature, not to exceed two (2) hours.

300 STANDARDS

- 301 LIMITATIONS:** The owner or operator of any stationary gas turbine unit shall not operate such unit under load conditions, excluding the thermal stabilization period which results in the measured NO_x emissions concentration exceeding the compliance limit listed below, averaged over 15 minutes:

Unit Size Megawatt Rating (MW)	Compliance limit NO _x , ppm @ 15% O ₂	
	Gas ^A	Oil ^B
0.3 to Less Than 2.9 MW and Units Greater Than or Equal to 4 MW That Operate Less Than 877 Hour/Year	42	65
2.9 to Less Than 10 MW	25 x EFF/25	65
10.0 MW and Over with SCR	9 x EFF/25	25 x EFF/25
10.0 MW and Over Without SCR	15 x EFF/25	42 x EFF/25

A. GAS INCLUDES NATURAL, DIGESTER, AND LANDFILL GASES.

B. OIL INCLUDES KEROSENE, JET, AND DISTILLATE. THE SULFUR CONTENT OF THE OIL SHALL BE LESS THAN 0.05%.

Where: **EFF**(efficiency) is the higher of the following:

$$301.1 \quad \text{EFF} = \frac{3412 \times 100\%}{\text{AHR}}$$

[where: AHR = Actual Heat Rate at HHV of Fuel (BTU/KW-HR)], which is the demonstrated percent efficiency of the gas turbine only as calculated without consideration of any downstream energy recovery from the actual heat rate, (BTU/KW-HR) or 1.34 (BTU/HP-HR); corrected to the HHV (higher heating value) of the fuel and ISO conditions, as measured at peak load for that facility, or

$$301.2 \quad \text{EFF} = \frac{\text{MRE} \times \text{LHV}}{\text{HHV}}$$

[where: MRE = Manufacturer's Rated Efficiency with Air Pollution Equipment at LHV.], which is the manufacturer's continuous rated percent efficiency of the gas turbine with air pollution equipment after correction from LHV to HHV of the fuel at peak load for that facility.

400 ADMINISTRATIVE REQUIREMENTS

- 401 COMPLIANCE SCHEDULE:** Owners or operators of all gas turbines existing on the date of adoption and subject to the provisions of this rule shall comply with the applicable provisions of Section 301 in accordance with the following schedule:

401.1 No later than May 31, 1995, demonstrate final compliance.

- 402 EMISSION CONTROL PLAN:** The owner or operator of any existing stationary gas turbine shall submit to the Air Pollution Control Officer for approval an Emissions Control Plan of all actions, including a schedule of increments of progress, which will be taken to meet or exceed requirements of the applicable emissions limitations in Section 301 and compliance schedule in Section 401.

- 402.1 The Emission Control Plan shall contain, as a minimum, a list that provides the following for each gas turbine subject to the provisions of this rule:
- a. Permit or identification number;
 - b. Name of gas turbine manufacturer;
 - c. Model designation;
 - d. Rated shaft power output (MW);
 - e. Type of liquid fuel and/or type of gaseous fuel;
 - f. Fuel consumption (cubic feet of gas or gallons of liquid) for the previous one-year period;
 - g. Hours of operation in the previous one-year period;
 - h. Heat rate (BTU/KW-HR), corrected to the HHV for each type of fuel (liquid/gas), and
 - i. HHV for each fuel.
- 402.2 A listing of all gas turbines required to be controlled, identifying the type of emission control to be applied to each gas turbine along with documentation showing existing emissions of oxides of nitrogen.
- 402.3 Support documentation for any units exempt under the provisions of Sections 110 and 111.

403 EXEMPT UNITS AND EMERGENCY STANDBY UNITS: Exempt units and emergency standby units shall comply with the following:

- 403.1 The owner or operator of any unit listed below shall notify the Air Pollution Control Officer in writing within seven days if the hour-per-year limit is exceeded. A public service unit operating during a state of emergency, when such emergency is declared by proclamation of the Governor of the State of California and when the unit is located in the specific geographical location identified in the proclamation, shall be excluded from the hour-per-year limit. If the hour-per-year limit is exceeded, the exemption shall be permanently withdrawn. Within 30 days after the exceedance, the owner or operator shall submit a application for Authority to Construct that details a plan to meet the applicable limits specified in Section 301 of this rule within two years. Included in this application, the owner or operator shall submit an emission control plan that includes a schedule of increments of progress for the installation of the required control equipment. This schedule shall be subject to the review and approval of the Air Pollution Control Officer.
- a. Any unit smaller than 4 MW or emergency standby unit exempt under Sections 110 and 111.
 - b. Any unit equal to or greater than 4 MW.

500 MONITORING AND RECORD-KEEPING

- 501 MONITORING:** The owner or operator of any stationary gas turbine subject to the

provisions of this rule shall perform the following actions:

- 501.1 Install, operate and maintain in calibration equipment, as approved by the Air Pollution Control Officer, that continuously measures and records the following:
 - a. Control system operating parameters;
 - b. Elapsed time of operation; and
 - c. For units of 10 MW or greater that operated more than 4000 hours per year over the last three years prior to July 13, 1994, the exhaust gas NO_x concentrations corrected to ISO conditions at 15 percent oxygen on a dry basis. The NO_x monitoring system shall meet EPA requirements as specified in 40 CFR Part 60, App. B, Spec.2 or other systems that are acceptable to the EPA.

502 RECORD-KEEPING:

- 502.1 All records shall be available for inspection at anytime for a period of two years.
- 502.2 Submit to the Air Pollution Control Officer information demonstrating that the system has data gathering and retrieval capability.
- 502.3 Submit to the Air Pollution Control Officer, prior to issuance of a Permit to Operate, information correlating the control system operating parameters to the associated NO_x output. This information may be used by the Air Pollution Control Officer to determine compliance when there is no continuous emission monitoring system for NO_x available or when the continuous emission monitoring system is not operating properly.
- 502.4 Provide source test information annually regarding the exhaust gas NO_x concentration at ISO conditions corrected to 15 percent oxygen on a dry basis, and the demonstrated percent efficiency (EFF) of the turbine unit.
- 502.5 Maintain a gas turbine operating log that includes, on a daily basis, the actual Pacific Standard Time start-up and stop time, total hours of operation, type and quantity of fuel used (liquid/gas). This information shall be available for inspection at any time from the date of entry.
- 502.6 Maintain a gas turbine operating log for units exempt under Section 111 that includes, on a daily basis, the actual Pacific Standard Time start-up and stop time, total hours of operation, and cumulative hours of operation to date for the calendar year. This information shall be available for inspection at any time for two years from the date of entry and submitted to the Air Pollution Control Officer at the end of each calendar year in a manner and form approved by the Air Pollution Control Officer.

503 TEST METHODS:

- 503.1 **Oxides of Nitrogen (NO_x):** Oxides of Nitrogen (NO_x) emissions shall be determined in accordance with EPA Method 20.
- 503.2 **Oxygen (O₂):** Oxygen (O₂) concentrations shall be determined in accordance with EPA Method 3A.

503.3 **HHV and LHV:** HHV and LHV shall be determined in accordance with ASTM D-240-87, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter, or D-2382-88, Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-precision Method), for distillate fuels, and ASTM D-3588-91, Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density (Specific Gravity) of Gaseous Fuels, ASTM D-1826-88, Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter, or ASTM D-1945-81, Standard Method for Analysis of Natural Gas by Gas Chromatography, for gaseous fuels.